



NORTH STAR

WINDOWS & DOORS®

ARCHITECTURAL

MANUAL



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Why We Are the Best

North Star has earned a reputation for manufacturing and distributing attractive, high-quality, energy efficient vinyl windows and doors.

North Star's manufacturing system ensures all our vinyl windows and doors are built to meet or exceed industry standards. Our products are tested and certified by Canadian Standards Association and comply with American Architectural Manufacturers Association (AAMA) standards. We're so confident in our windows and doors that we back them with a transferable, limited lifetime warranty.

When you buy North Star products, you know you're getting the best quality and value for your investment.

The strong relationship we have with our various manufacturing partners has helped us maintain our reputation for leadership, innovation and the production of windows and doors of impeccable quality.



Committed to Green

At North Star, we care about the environment inside your home and outside it as well. We're constantly striving to save energy and eliminate waste throughout our EnviroMade™ production process in order to ensure a greener future for everyone.

Recycling excess materials

- **PVC** – All excess PVC scrap is recycled to make products such as vinyl fence and decking.
- **Cardboard** – Excess cardboard is recycled into products such as cellulose insulation.
- **Glass** – Scrap glass is recycled to use in road resurfacing.
- **Scrap metal** – Excess scrap metal is reused by scrap-metal recyclers.

Reducing energy consumption

- **Water** – Water from our glass-washing equipment is filtered for re-use.
- **Engine oil** – Used engine oil from our truck fleet is collected and re-refined to make various oil products.
- **Heat** – Heat that is generated from our equipment is re-directed into our plant to reduce overall energy costs.
- **Lighting** – Our entire plant's lighting system uses energy efficient lights to reduce overall energy consumption.

North Star is committed to a greener future, not only in the energy efficient products we make, but also in how we make them.



1071 Picture Window (No Sash)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded by North Star Windows from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 ¼" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick. Special option: espresso interior laminate combined with espresso exterior laminate is available for this window type.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

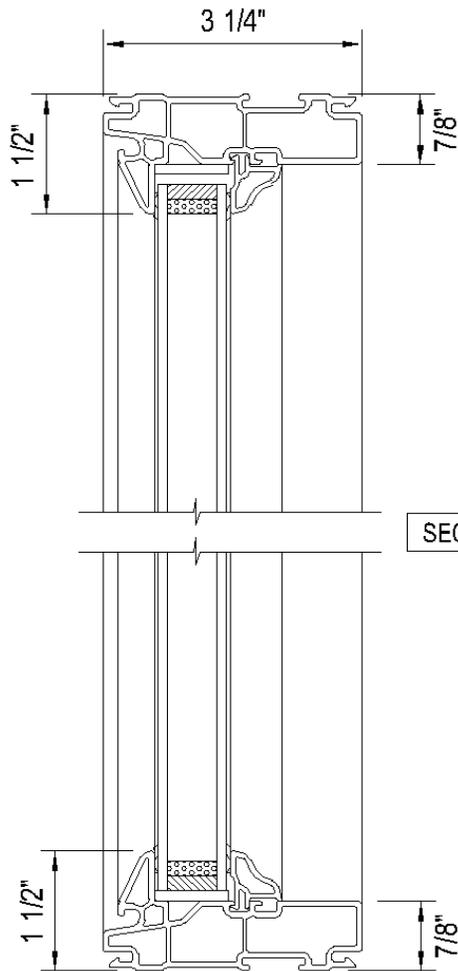
North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

1071 Picture Window (No Sash) Details

HEAD DETAIL



CAN/CSA A440-00

Air: (A) Fixed Rating

Water: B7

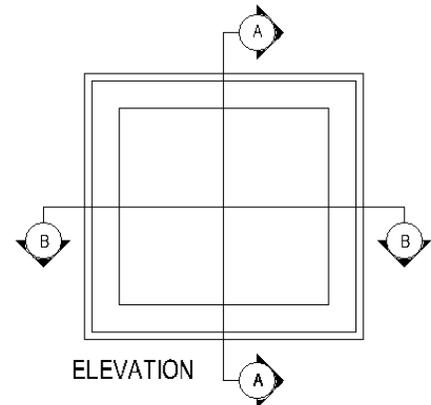
Structural: C5

Forced Entry: N/A

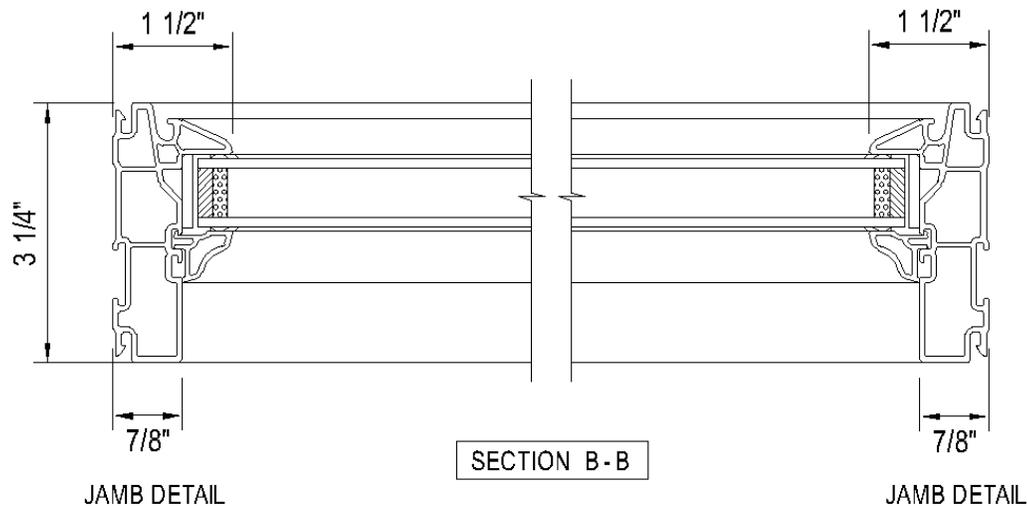
DP Rating: CW-PG70-FW

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: Fixed



SILL DETAIL



JAMB DETAIL

JAMB DETAIL

1071 Architectural Shaped Window

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded by North Star Windows from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 ¼" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick. Special option: espresso interior laminate combined with espresso exterior laminate is available for this window type.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

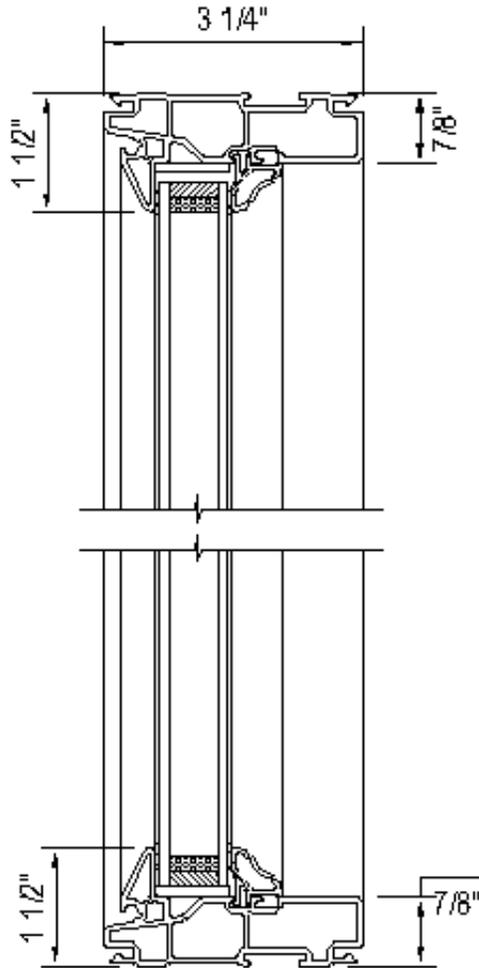
North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

1071 Architectural Shaped Windows

HEAD DETAIL



CAN/CSA A440-00

Air: (A) Fixed Rating

Water: B7

Structural: C5

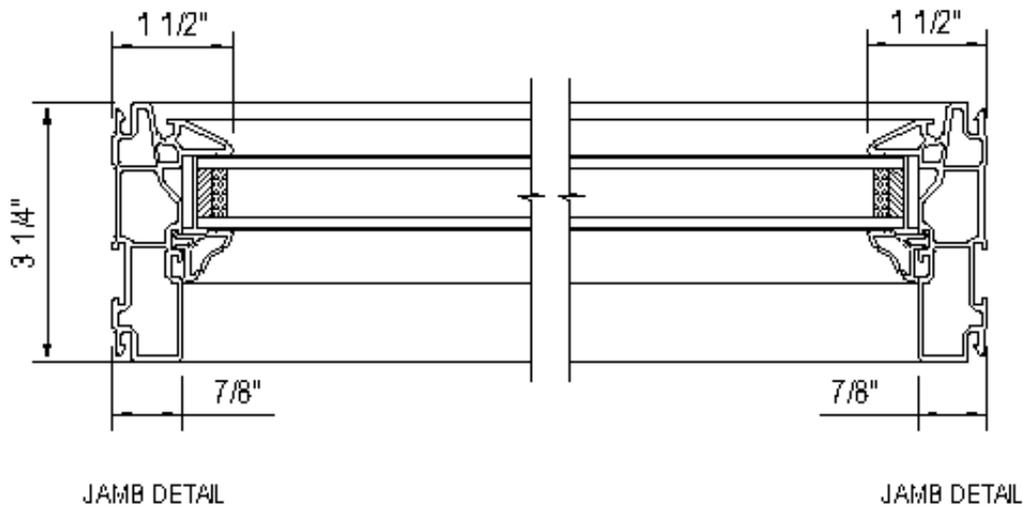
Forced Entry: N/A

DP Rating: CW-PG70-FW

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: Fixed

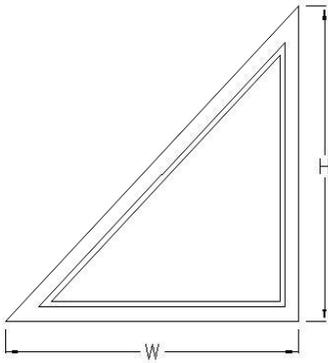
SILL DETAIL



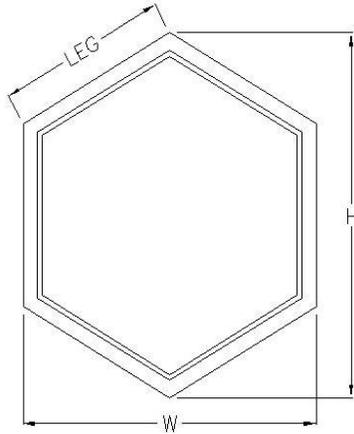
JAMB DETAIL

JAMB DETAIL

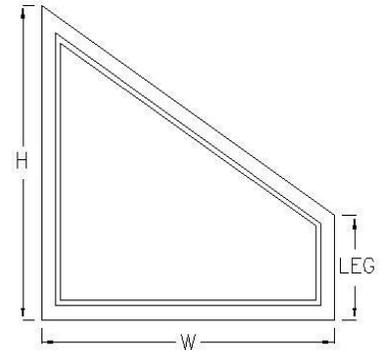
Non-Bent Geometric Shapes



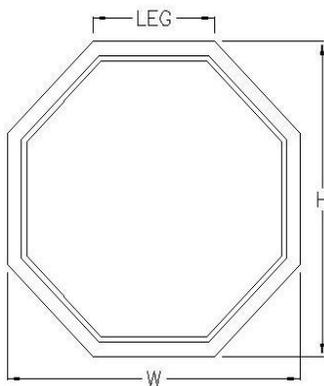
TRIANGLE
MODEL #1030



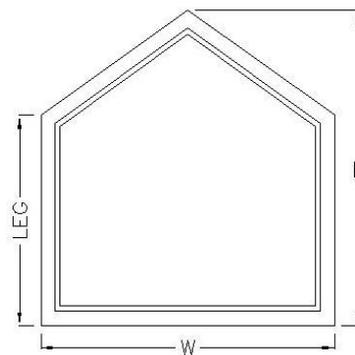
HEXAGON
MODEL #1031



TRAPEZOID
MODEL #1032

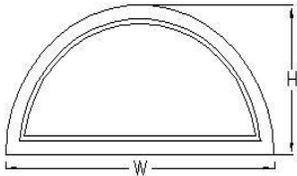


OCTAGON
MODEL #1033

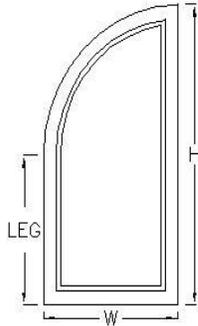


PENTAGON
MODEL #1034

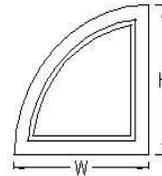
Bent Geometric Shapes



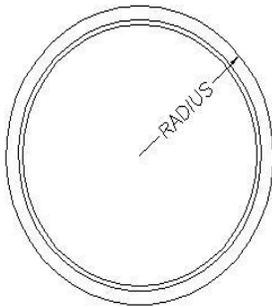
HALF ARCH
MODEL #1023



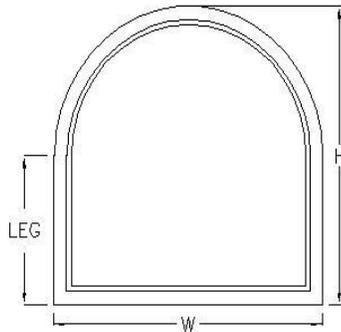
EXTENDED QUARTER ARCH
MODEL #1028B



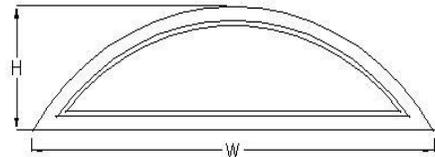
QUARTER ARCH
MODEL #1027



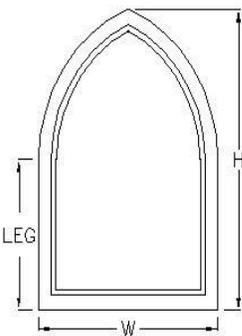
FULL CIRCLE
MODEL #1024



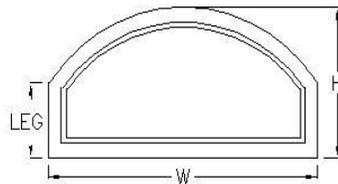
EXTENDED ARCH
MODEL #1028



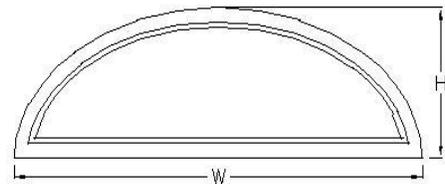
CORD/EYEBROW
MODEL #1025



CATHEDRAL
MODEL #1029



ELIPSE TOP
MODEL #1026



TRUE ELIPSE
MODEL #1037

1072 Picture Window (With Sash)

SPECIFICATIONS

Frame

Combined frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 ¼" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior sash edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick. Special option: espresso interior laminate combined with espresso exterior laminate is available for this window type.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available on casement, awning, picture window and North Star Patio Doors. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

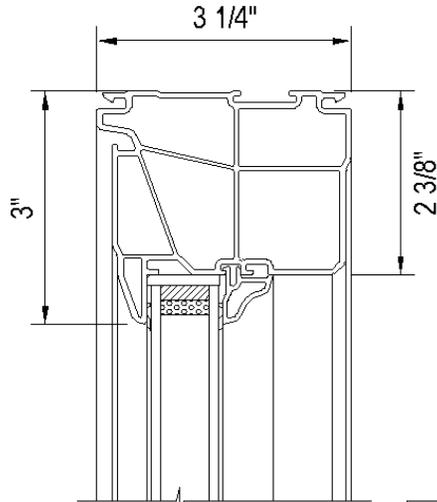
North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

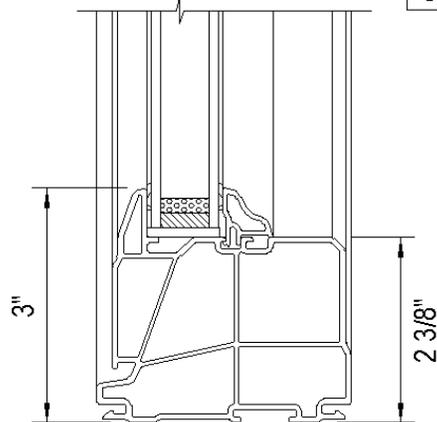
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

1072 Picture Window (With Sash) Details

HEAD DETAIL



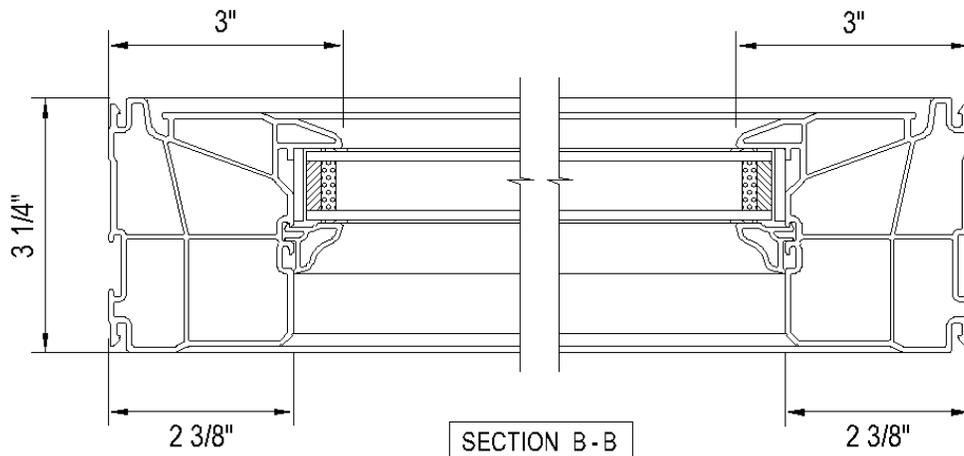
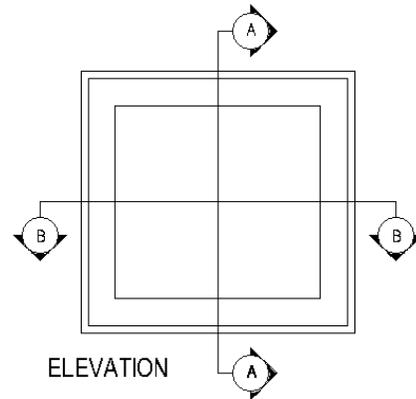
SECTION A-A



SILL DETAIL

CAN/CSA A440-00
 Air: (A) Fixed Rating
 Water: B7
 Structural: C5
 Forced Entry: N/A

DP Rating: CW-PG100-FW
 Water Resistance (psf): 730 (15.0)
 Air Infiltration/Exfiltration: Fixed



JAMB DETAIL

SECTION B-B

JAMB DETAIL

1171 Casement Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 ¼" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Neoprene setting blocks are placed around glass in sash in diagonal pattern with silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible fin weather strip extruded to exterior edge of sash. Install architectural profiled interior glazing stops with soft flexible fin weather-strip against interior glass face.

Triple Weather-Stripping

Two flexible dual durometer bulb type compression gaskets are located around perimeter of window frame to ensure air and water tight seal and maximum energy efficiency. One water repellant pile weather-strip with stiff fin type vapor barrier is located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.

Hardware

Truth Maxim hardware has concealed hinges and heavy duty roto gear operator which allow sash to open to 90° for ease of cleaning. The roto gear operator will hold the sash at any position. Sash lock pulls weather-stripped sash against dual compression weather-strips on frame. Concealed multipoint sash locks are standard on units taller than 22" in height. All steel components have Truth E-Gard™ coating for superior corrosion protection. Snubber hardware on the frame and sash ensure compression of the bulb weather-strip opposite to the lock side.

Hardware Options

Standard Truth Maxim roto gear operator and sash locks are standard in white with contour handle. Truth Encore folding handle with roto gear nesting cover is available in white, faux bronze, brushed antique chrome, satin nickel and oil rubbed bronze finish.

Note: Limit sash opening hardware is available.

Screen

North Star Heavy Duty EZ-Screens are roll formed from heavy duty .025" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has spring loaded corner keys for easy removal and installation of screen. Standard screens are white. Also available are Kolonial Oak and Stainable/Paintable laminated screen frames with mitered corners that include spring loaded corner keys for easy removal and installation.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick. Special option: espresso interior laminate combined with espresso exterior laminate is available for this window type.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

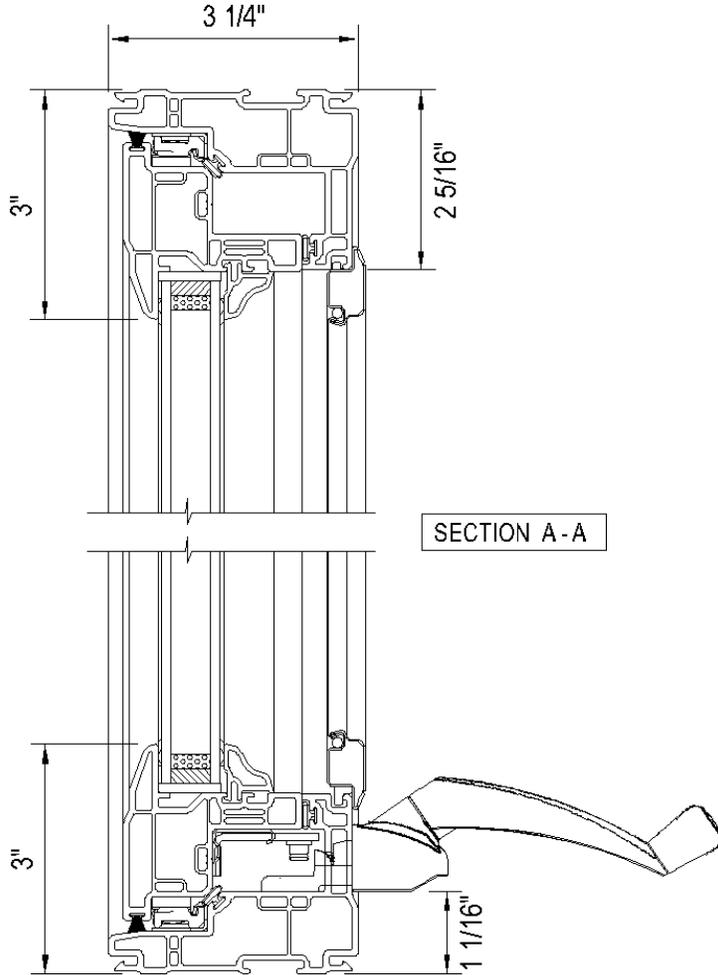
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for casement windows that enable narrow sizes to meet egress codes.

1171 Casement Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A3

Water: B7

Structural: C4

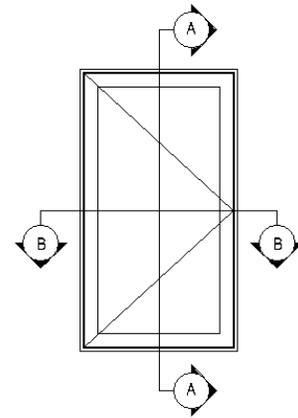
Screen: S2

Forced Entry: F20

DP Rating: R-PG75-C

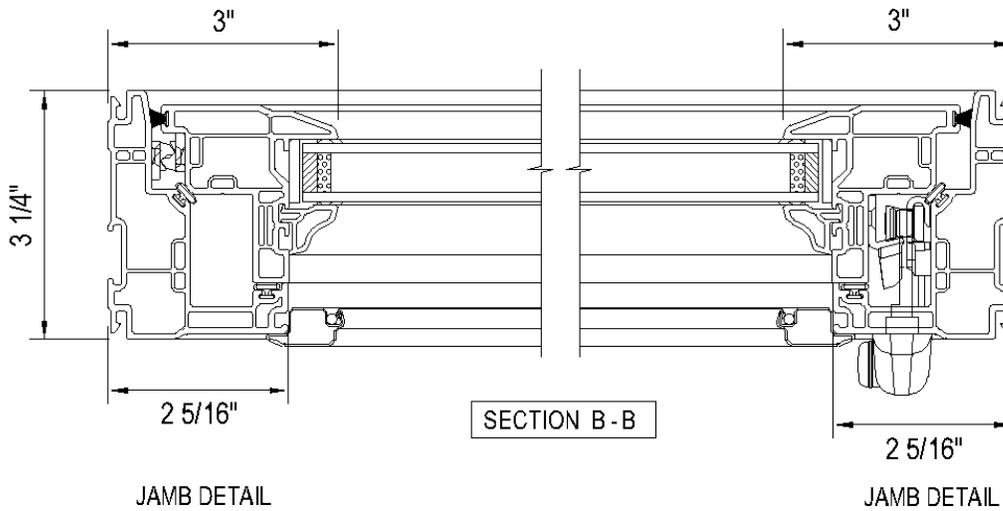
Water Resistance (psf): 690 (14.25)

Air Infiltration/Exfiltration: A3



ELEVATION
EXTERIOR VIEW - RIGHT HAND HINGE

SILL DETAIL



1173 Awning Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 ¼" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Neoprene setting blocks are placed around glass in sash in diagonal pattern with silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible fin weather strip extruded to exterior edge of sash. Install architectural profiled interior glazing stops with soft flexible fin weather-strip against interior glass face.

Triple Weather-Stripping

Two flexible dual durometer bulb type compression gaskets are located around perimeter of window frame to ensure air and water tight seal and maximum energy efficiency. One water repellent pile weather-strip with stiff fin type vapor barrier is located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.

Hardware

Truth Maxim hardware has concealed scissor hinges and heavy duty roto gear operator. The roto gear operator will hold the sash at any position. Sash lock pulls weather-stripped sash against dual compression weather-strips on frame. Dual sash locks located on window jamb. All steel components have Truth E-Gard™ coating for superior corrosion protection. Snubber hardware on windows 42" wide and over is applied to the frame and sash at head of window to ensure compression of the bulb weather-strip opposite to sill hardware.

Hardware Options

Standard Truth Maxim roto gear operator and sash locks are standard in white with contour handle. Truth Encore folding handle with roto gear nesting cover is available in white, faux bronze, brushed antique chrome, satin nickel and oil rubbed bronze finish.

Screen

North Star Heavy Duty EZ-Screens are roll formed from heavy duty .025" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has spring loaded corner keys for easy removal and installation of screen. Standard screens are white. Also available are Kolonial Oak and Stainable/Paintable laminated screen frames with mitered corners that include spring loaded corner keys for easy removal and installation.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick. Special option: espresso interior laminate combined with espresso exterior laminate is available for this window type.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

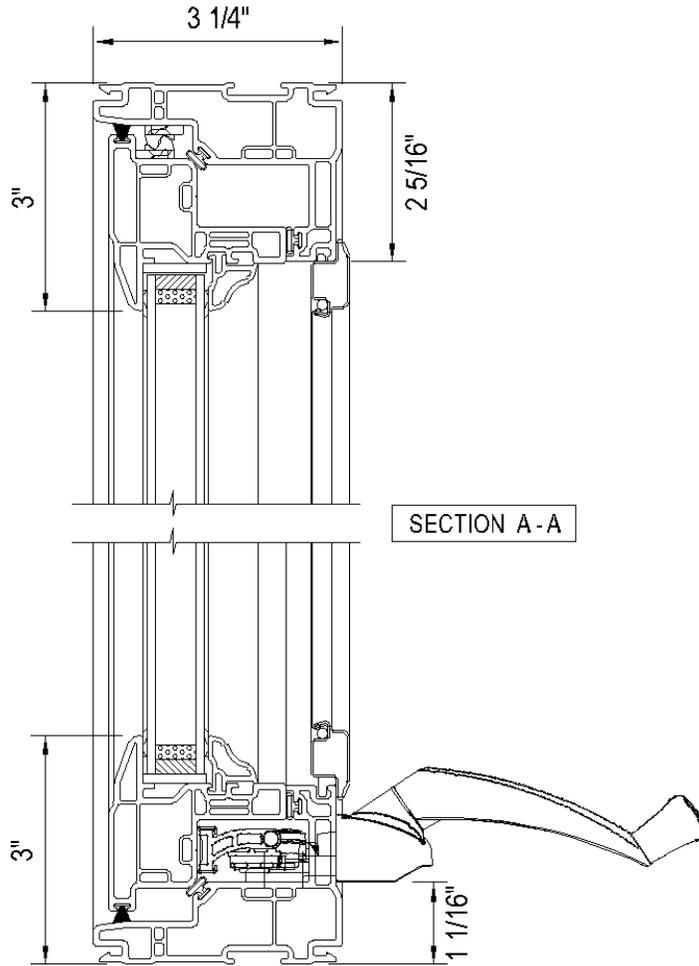
North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

1173 Awning Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A3

Water: B7

Structural: C4

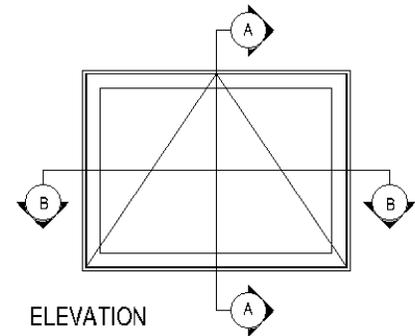
Screen: S2

Forced Entry: F20

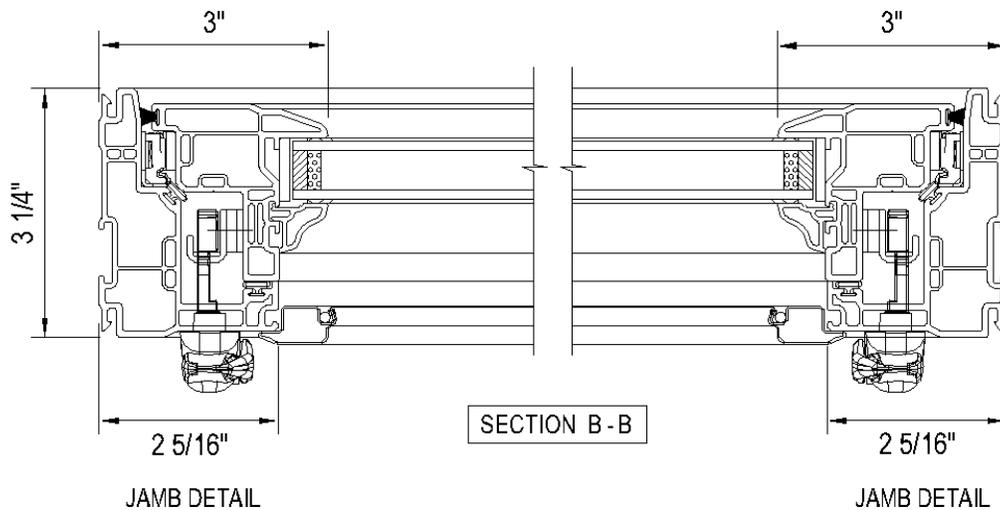
DP Rating: R-PG65-AP

Water Resistance (psf): 690 (14.25)

Air Infiltration/Exfiltration: A3



SILL DETAIL



1271 Double Hung Tilt Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 1/4" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Water repellant pile weather-strips with stiff fin type vapor barrier are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two additional pile weather-strip with stiff fin type vapor barrier are located on the inside of window frame at sill and jamb location for additional protection against air and water penetration.

Hardware

Two die-cast cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 27 1/4" in width require one cam lock and keeper. Each sash is operated with two spiral balance hardware. True recessed finger latches release both top and bottom sash to allow sash to tilt in for ease of cleaning. Full length sash pull handles are extruded into the interior glazing stop profile. Standard color is white.

Hardware Options

Self-latching locks and keepers are available as an option. Faux finish color locks, keepers and tilt latches are standard features when Kolonial Oak or Stainable/Paintable pine laminated interior finish is ordered.

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white or North Star's seven exterior colors. Double hung is standard with full screen.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

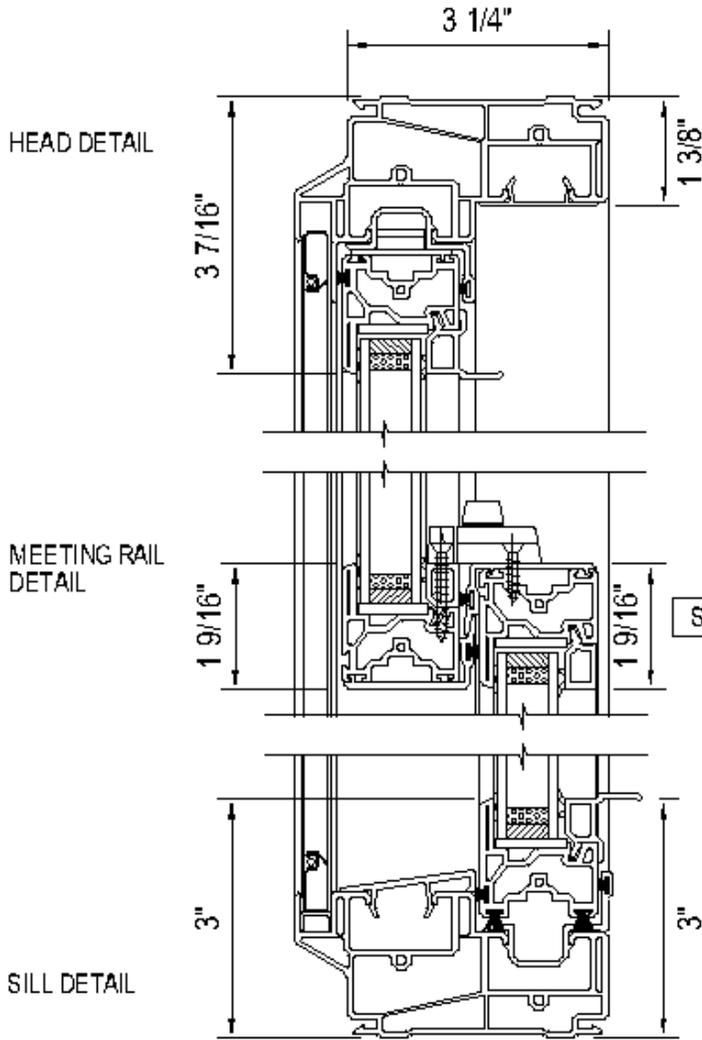
Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

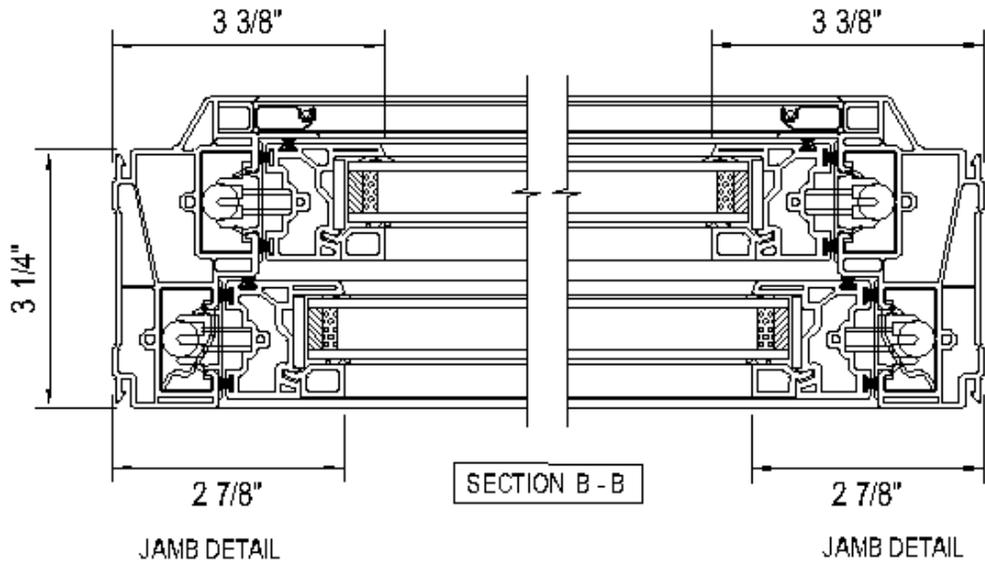
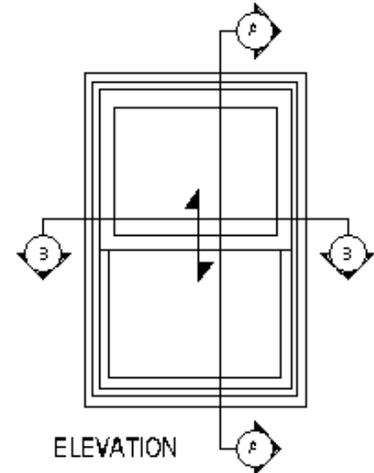
Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for double hung tilt windows that enable narrow sizes to meet egress codes.

1271 Double Hung Tilt Window Details



CAN/CSA A440-00	
Air: A2	
Water: B6	
Structural: C5	
Screen: S1	
Forced Entry: F10	
<hr/>	
DP Rating: R-PG40-H	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: A2	

SECTION A-A



1272 Double Slider Tilt Window

SPECIFICATIONS

Note: Side Slider Tilt, both sash slide and tilt

Frame and Sash

All frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 ¼" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Water repellent pile weather-strips with stiff fin type vapor barrier are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two additional pile weather-strip with stiff fin type vapor barrier are located on the inside of window frame at sill and jamb location for additional protection against air and water penetration.

Hardware

Two die-cast cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 27 ¾" in height require one cam lock and keeper. Sash release latches are secured to sash to allow tilt in of both sashes for ease of cleaning. "Delrin" self-lubricating glide shoes on bottom of sash allow for smooth, effortless opening and closing of sash. Full length sash pull handles are extruded into the interior glazing stop profile. Standard hardware color is white.

Hardware Options

Self-latching locks and keepers are available as an option. Faux finish color locks, keepers and tilt latches are standard features when Kolonial Oak or Stainable/Paintable laminated pine interior finish is ordered.

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white or North Star's seven exterior colors. Double slider has full screen.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

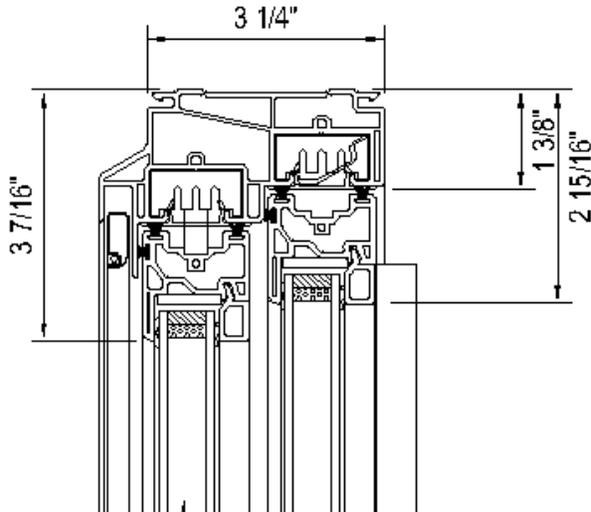
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for double slider tilt windows that enable narrow sizes to meet egress codes.

1272 Double Slider Tilt Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A2

Water: B2

Structural: C5

Screen: S1

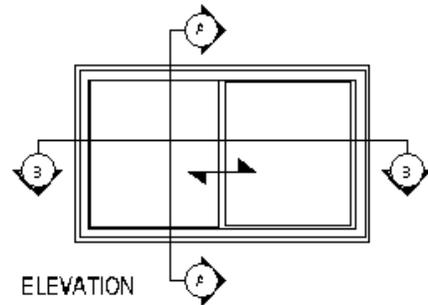
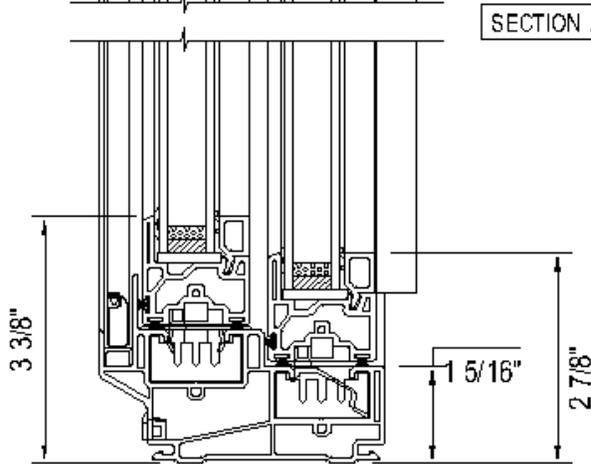
Forced Entry: F10

DP Rating: R-PG30-HS

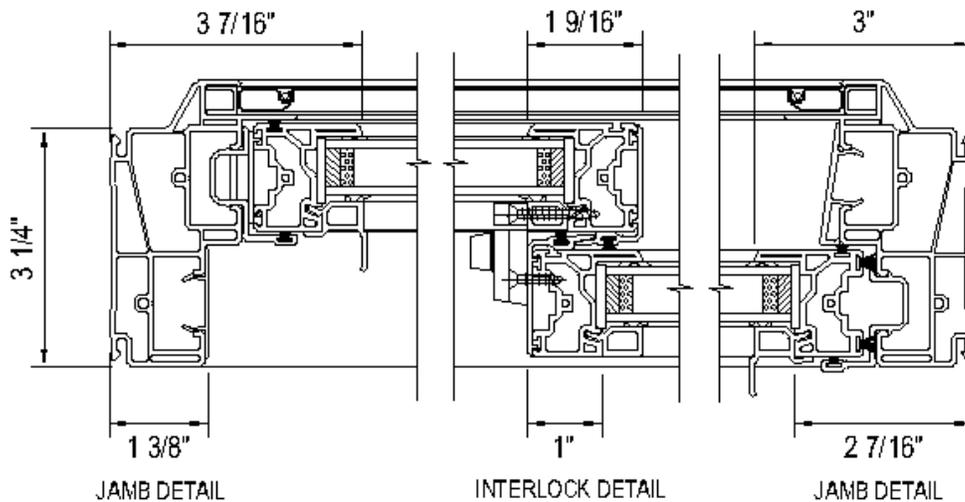
Water Resistance (psf): 220 (4.5)

Air Infiltration/Exfiltration: A2

SECTION A - A



SILL DETAIL



SECTION B - B

1273 Double Slider Liftout Window

SPECIFICATIONS

Note: Double Slider 1273, both sash slide

Frame and Sash

All frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 1/4" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Water repellant pile weather-strips with stiff fin type vapor barrier are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two additional pile weather-strip with stiff fin type vapor barrier are located on the inside of window frame at sill and jamb location for additional protection against air and water penetration.

Hardware

Two die-cast cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 27 1/4" in height require one cam lock and keeper. Sash release latches are secured to sash to allow tilt in and lift out of both sashes for ease of cleaning. "Delrin" self-lubricating glide shoes on bottom of sash allow for smooth, effortless opening and closing of sash. Full length sash pull handles are extruded into the interior glazing stop profile. Standard hardware color is white.

Hardware Options

Self-latching locks and keepers are available as an option. Faux finish color locks, keepers and tilt latches are standard features when Kolonial Oak or Stainable/Paintable laminated pine interior finish is ordered.

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white or North Star's seven exterior colors. Double slider has full screen.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

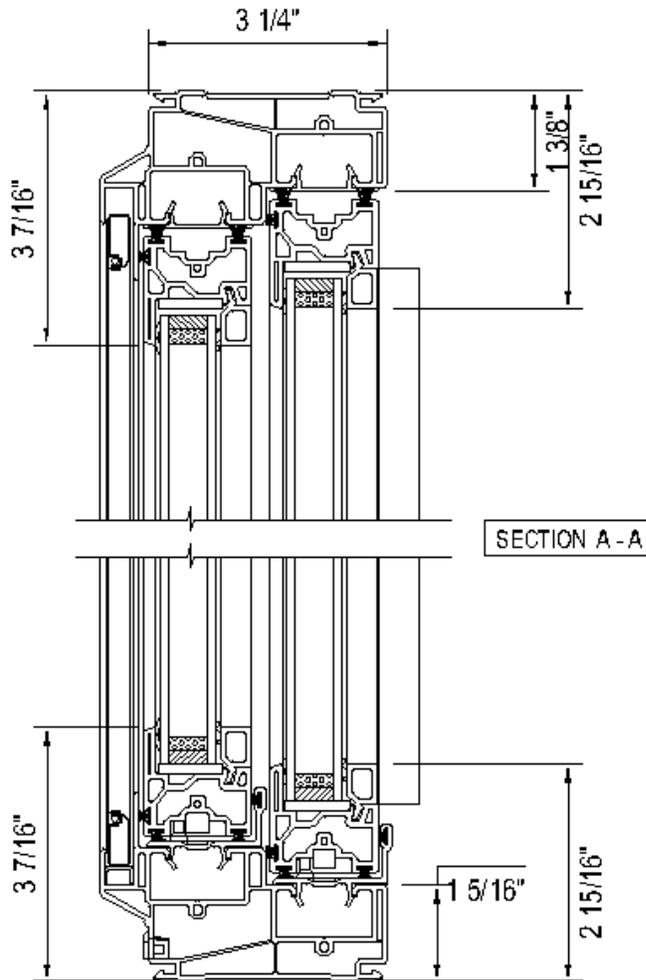
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for double slider liftout windows that enable narrow sizes to meet egress codes.

1273 Double Slider Liftout Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A2

Water: B3

Structural: C3

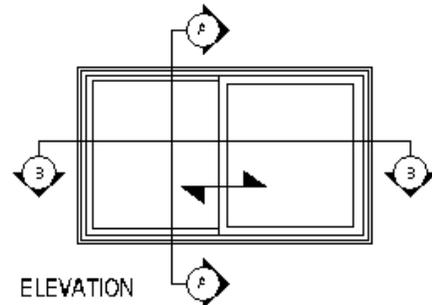
Screen: S1

Forced Entry: F20

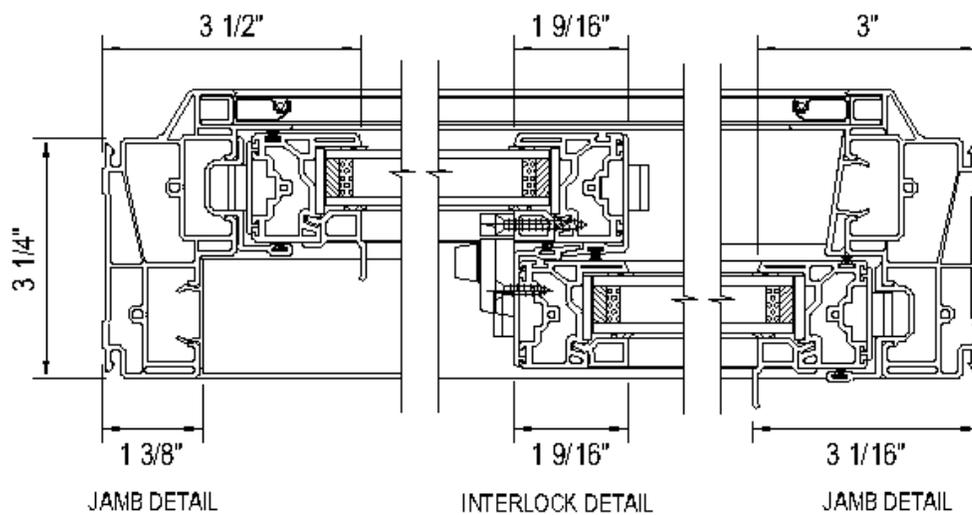
DP Rating: R-PG45-HS

Water Resistance (psf): 360 (7.5)

Air Infiltration/Exfiltration: A2



SILL DETAIL



SECTION B - B

1371 Single Hung Tilt Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 1/4" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Seven water repellent pile weather-strips with stiff fin type vapor barriers are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two additional pile weather-strips are incorporated for added weatherability. One weather-strip is located on the inside of the window frame at sill and one weather-strip on the fixed upper sash where lower and upper sash overlap.

Hardware

Two die-cast cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 25 1/2" in width require one cam lock and keeper. Each sash is operated with two spiral balance hardware. True recessed finger latches release lower sash to allow sash to tilt in for ease of cleaning. Full length sash pull handles are extruded into the interior glazing stop profile. Standard color is white.

Hardware Options

Self-latching locks and keepers are available as an option. Faux finish color locks, keepers and tilt latches are standard features when Kolonial Oak or Stainable/Paintable pine laminated interior finish is ordered.

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star Single Hung 1/2 screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white or North Star's seven exterior colors.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

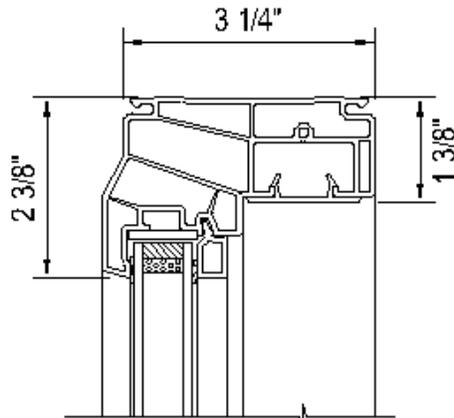
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single hung tilt windows that enable narrow sizes to meet egress codes.

1371 Single Hung Tilt Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A2/Fixed

Water: B4

Structural: C3

Screen: S1

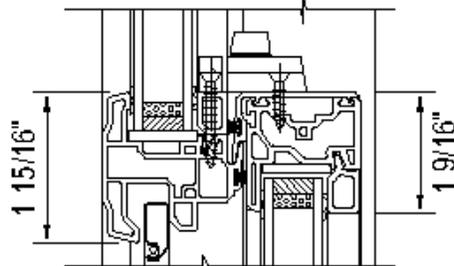
Forced Entry: F20

DP Rating: R-PG40-H

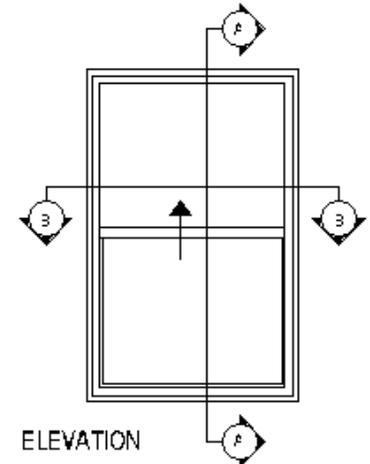
Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A2

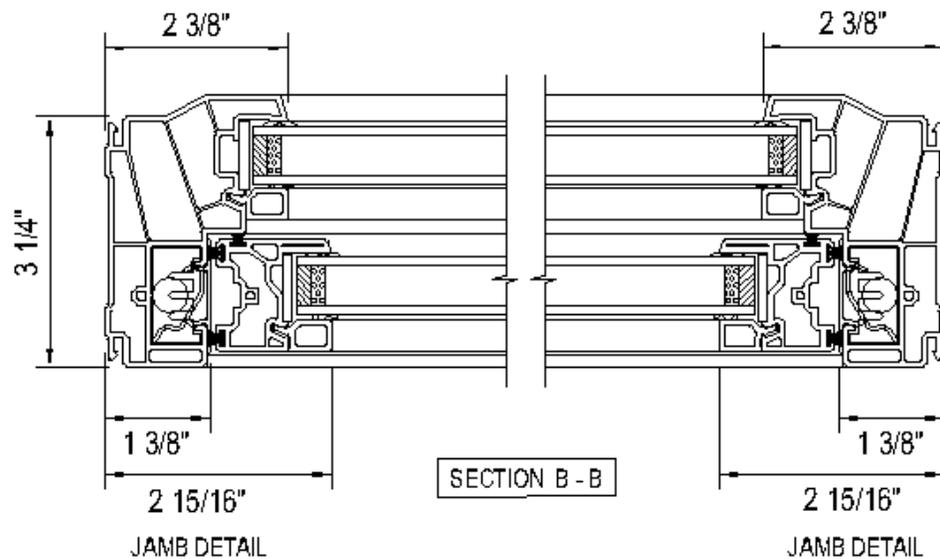
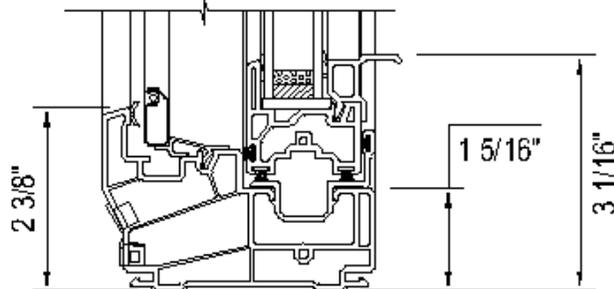
INTERLOCK DETAIL



SECTION A - A

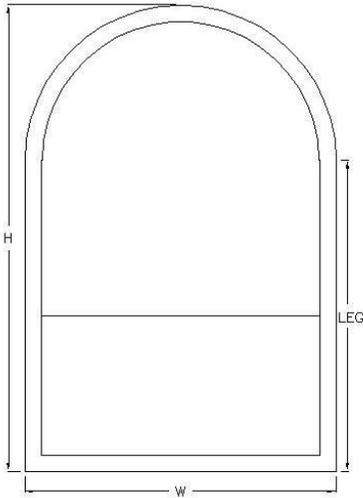


SILL DETAIL

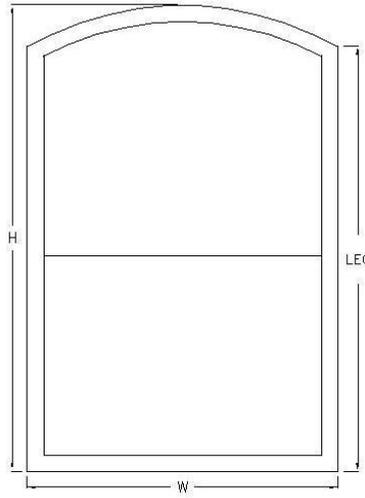


SECTION B - B

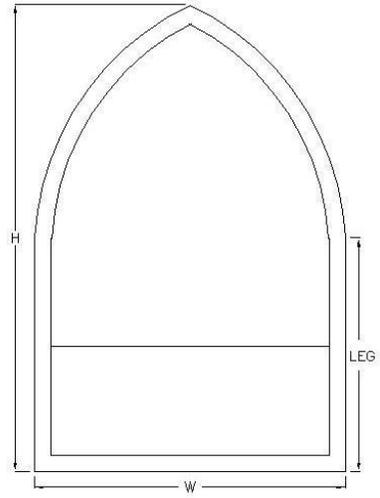
Shaped Top Single Hungs



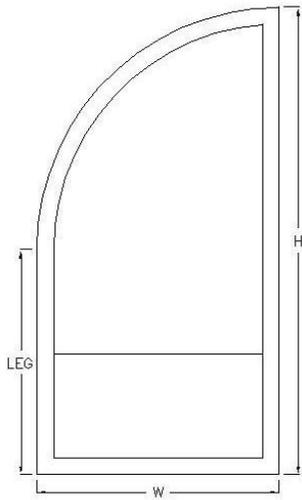
**SINGLE HUNG ROUND TOP
MODEL #1320**



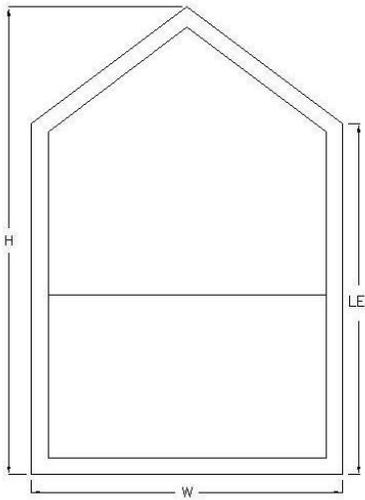
**SINGLE HUNG CAMBER TOP
MODEL #1321**



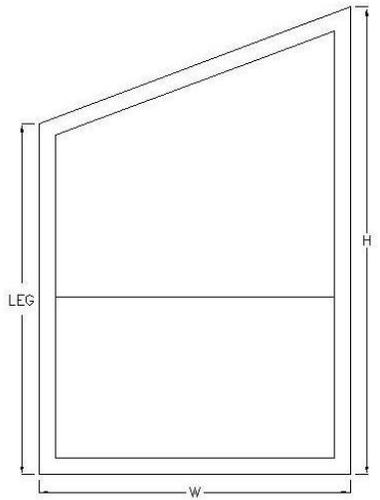
**SINGLE HUNG CATHEDRAL
MODEL #1322**



**SINGLE HUNG QUARTER ARCH
MODEL #1323**



**SINGLE HUNG PENTAGON
MODEL #1324**



**SINGLE HUNG TRAPEZOID
MODEL #1325**

1372 Single Slider Liftout Window

SPECIFICATIONS

Note: Single Slider 1372 has left side operating and right side fixed. Single Slider 1373 is reverse.

Frame and Sash

All frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 ¼" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Eight water repellant pile weather-strips with stiff fin type vapor barriers are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two interior side water repellant pile weather-strips with stiff fin type vapor barrier are located on the inside of window frame at sill and jamb location for additional protection against air and water penetration.

Hardware

Two die-cast cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 25 ¼" in height require one cam lock and keeper. Sash release latches are secured to sash to allow tilt in and lift out of operating sash for ease of cleaning. "Delrin" self-lubricating glide shoes on bottom of sash allow for smooth effortless opening and closing of sash. Full length sash pull handles are extruded into the interior glazing stop profile. Standard profile color is white.

Hardware Options

Self-latching locks and keepers are available as an option. Faux finish color locks, keepers and tilt latches are standard features when Kolonial Oak or Stainable/Paintable laminated pine interior finish is ordered.

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white or North Star's seven exterior colors. Single Slider has 1/2 screen.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

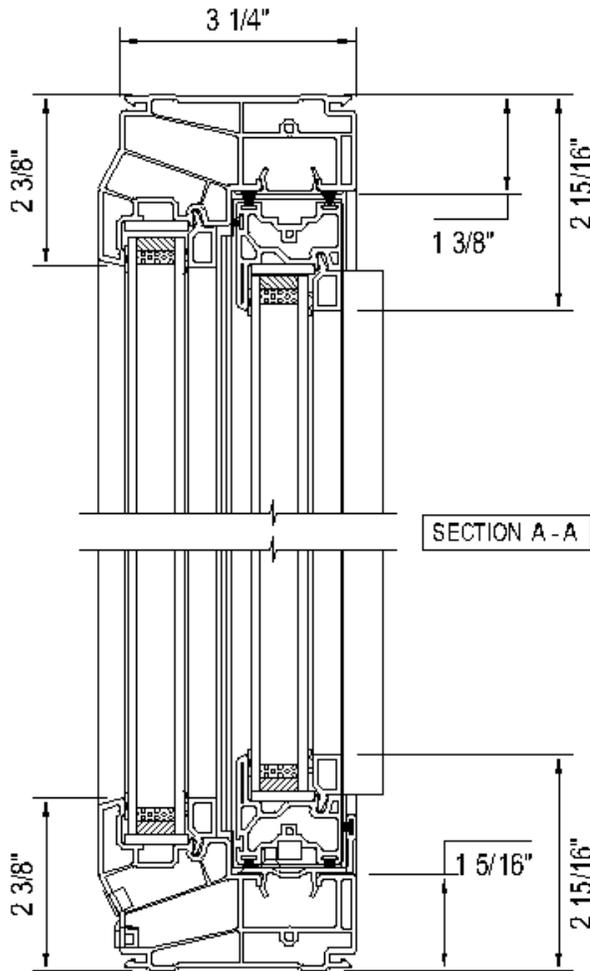
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single slider liftout windows that enable narrow sizes to meet egress codes.

1372 Single Slider Liftout Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A2/Fixed

Water: B4

Structural: C3

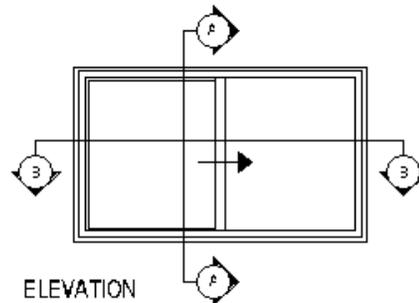
Screen: S1

Forced Entry: F20

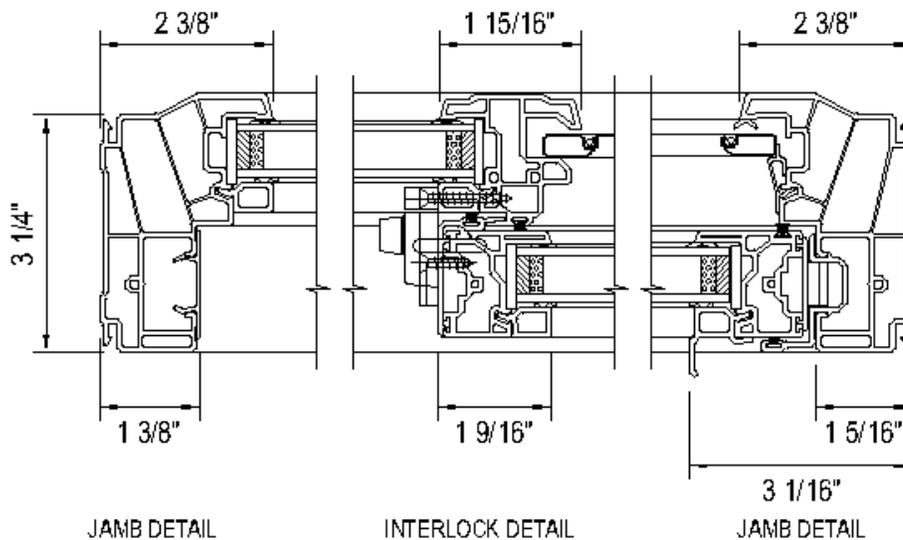
DP Rating: R-PG40-HS

Water Resistance (psf): 290 (6.0)

Air Infiltration/Exfiltration: A3



SILL DETAIL



SECTION B - B

1374 3-Lite (End-Vent) Single Slider Liftout Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 1/4" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Water repellant pile weather-strips with stiff fin type vapor barrier are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two additional pile weather-strips with stiff fin type vapor barrier are located on the inside of window frame and sill and jamb location for additional protection against air and water penetration.

Hardware

Two die-cast cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 25 1/4" in height require one cam lock and keeper. Sash release latches are secured to sash to allow tilt in and lift out of operating sash for ease of cleaning. "Delrin" self-lubricating glide shoes on bottom of sash allow for smooth, effortless opening and closing of sash. Full length sash pull handles are extruded into the interior glazing stop profile. Standard hardware color is white.

Hardware Options

Self-latching locks and keepers are available as an option. Faux finish color locks, keepers and tilt latches are standard features when Kolonial Oak or Stainable/Paintable laminated pine interior finish is ordered.

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner keys with pull tab. Screen frame is available in white or North Star's seven exterior colors. Double Slider has full screen.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

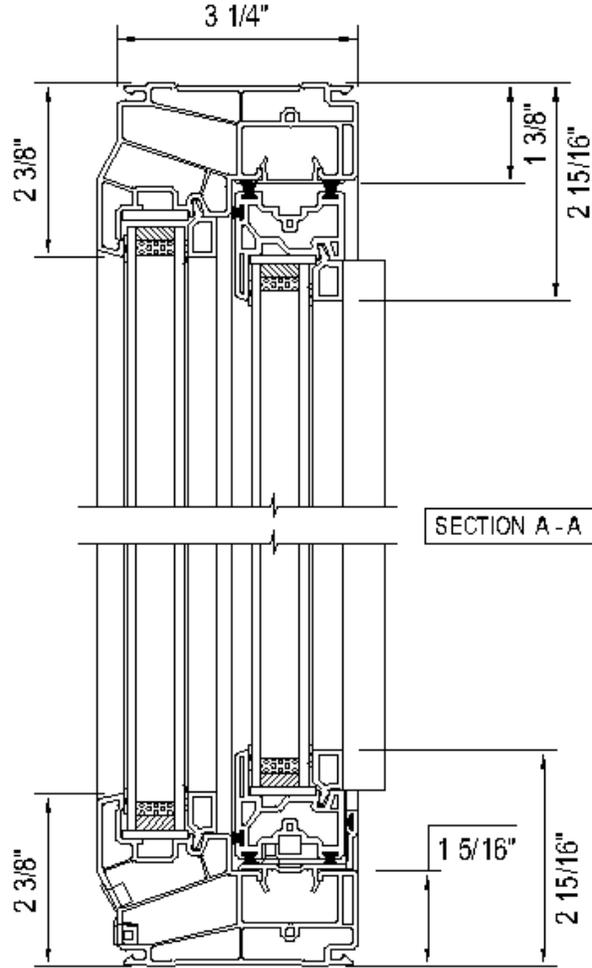
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single slider liftout windows that enable narrow sizes to meet egress codes.

1374 3-Lite Single Slider (End Vent) Liftout Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A3/Fixed

Water: B3

Structural: C3

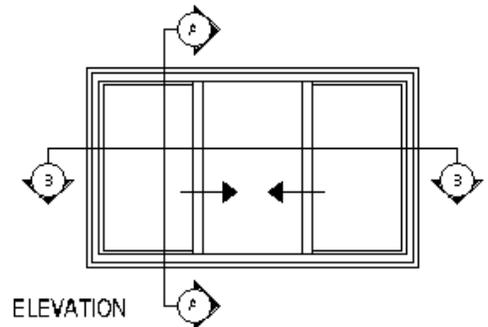
Screen: S1

Forced Entry: F20

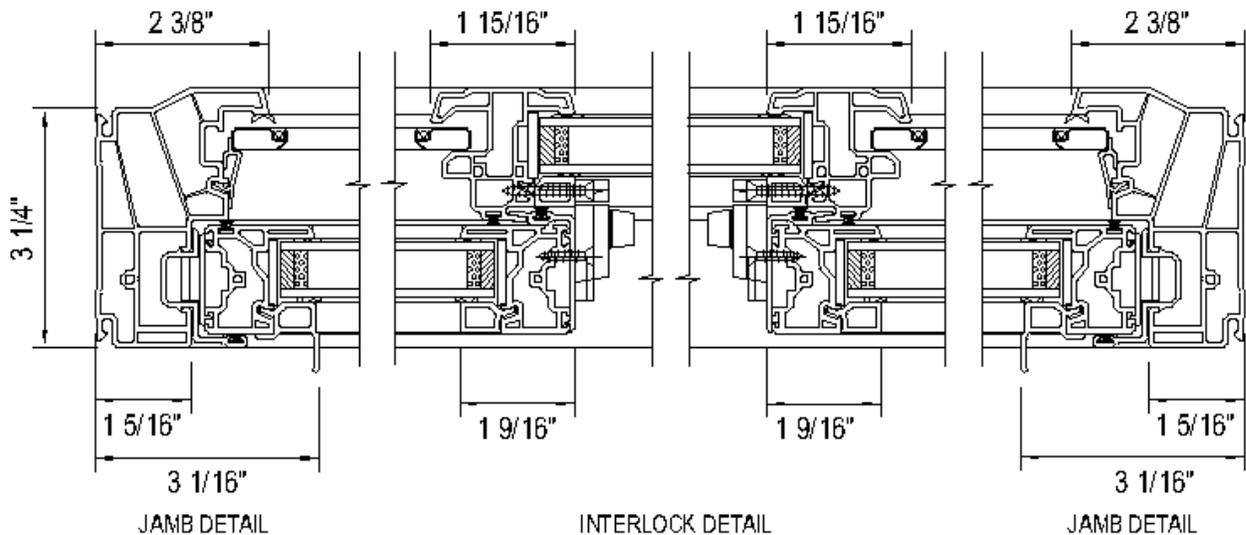
DP Rating: R-PG55-HS

Water Resistance (psf): 330 (6.75)

Air Infiltration/Exfiltration: A3



SILL DETAIL



SECTION B - B

1377 Picture Window (Singles Frame)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded by North Star Windows from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3 ¼" depth.

Note: Profiles are designed to match sliding window profiles.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install rectangular profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter and white. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

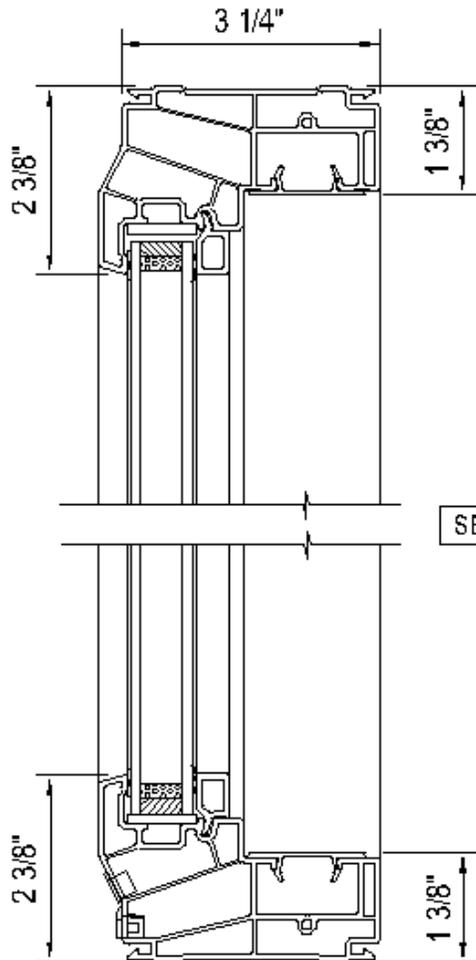
North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

1377 Picture Window (Singles Frame)

HEAD DETAIL



SECTION A-A

CAN/CSA A440-00

Air: N/A

Water: N/A

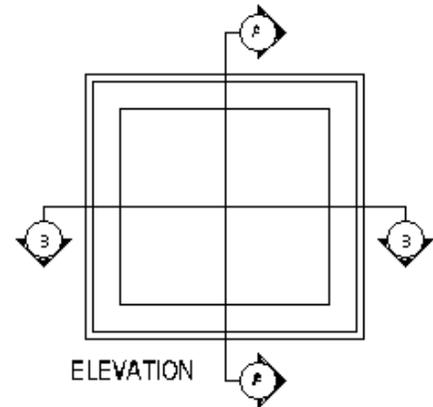
Structural: N/A

Forced Entry: N/A

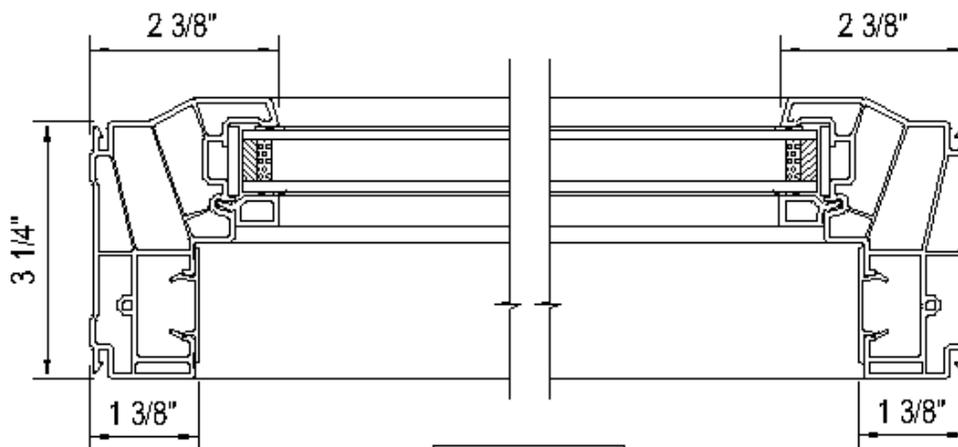
DP Rating: CW-PG70-FW

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: Fixed



SILL DETAIL



SECTION B-B

JAMB DETAIL

JAMB DETAIL

Bay & Bow Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames are a full 3/4" depth.

Head and Seat

Standard head and seat is constructed of maintenance-free 3/4" white Formica®. Medium oak veneer (unfinished) head and seat is an optional upgrade. Laminated 2 1/8" insulated head and seat is optional with exterior vinyl extruded capping system. Front edge of head and seat are sealed against moisture with an aluminum foil backed ice and water shield before extruded vinyl capping is applied and sealed.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

The combination of flexible vinyl bulb type and water repellent pile weather-strips with stiff fin type vapor barrier ensures maximum energy efficiency. See specifications of individual window types used in Bay or Bow for specific weather-strip detail.

Hardware

Hardware is dependent on types of windows used in Bay & Bow configurations. Grip-Tite™ cable support system is available for projected Bay and Bow windows.

Hardware Options

Refer to specifications for specific window type used in Bay or Bow for hardware options.

Screen

North Star screens are roll formed from heavy duty thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame is available in a variety of standard colors and laminates depending on window style.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick. Special option: espresso interior laminate combined with espresso exterior laminate is available for Casement and Picture windows only.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for bay and bow windows that enable narrow sizes to meet egress codes.



Factory Assembled Bay and Bow Windows

North Star's unique bay and bow windows include the following features:

- ➔ Completely assembled with side jambs, including interior side capping to minimize trimming the cavity most common on bay and bow applications
- ➔ Exterior extruded vinyl capping on head and seat
- ➔ Head and seat with jambs include edge banding, which allows the option of a reveal when installing the casing trim
- ➔ Stretch-wrapped packaging on a shipping skid to avoid damage to the unit
- ➔ Air spaces behind window couplers are insulated with fiberglass batt insulation

Our standard head and seat is constructed of maintenance-free, 3/4" white Formica®.

Other Options Include:

- ▶ Medium oak veneer (unfinished). ***We recommend this veneer be waterproofed immediately following installation to provide adequate protection to the finish***
- ▶ 2-1/8" insulated laminated system with exterior extruded vinyl capping
- ▶ **"Grip-Tite"™ CABLE SUPPORT SYSTEM:**
A great alternative for supporting bay and bow windows
Bay or bow windows must be supported to avoid sagging. Failing to do so will void all warranty
- ▶ **BRICKMOLD:**
 - Available only on bay and bow windows without head and seat
 - Used mostly for new construction and walk-in bays and bows

30 Degree Bay Window Size Chart

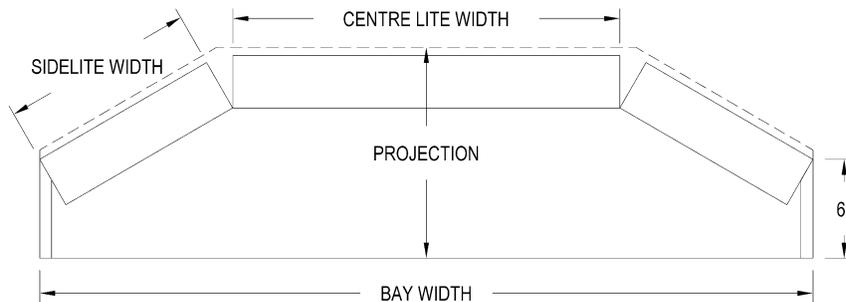
Use the chart below to determine window sizes.

The left column is the total width of the bay window. The sizes shown in the columns next to this are the widths of the side lites and center lites.

When calculating window heights, be sure to deduct 1-1/2" for regular Formica® head and seat, and 4-1/4" for insulated head and seat.

Standard jamb is 6".

Bay Width	Side Lite Width	Centre Lite Width	Total Projection With 6" Jamb
48	12.0000	23.97	12.94
52	13.0000	26.23	13.44
56	14.0000	28.50	13.94
60	15.0000	30.77	14.44
64	16.0000	33.04	14.94
68	17.0000	35.31	15.44
72	18.0000	37.57	15.94
76	19.0000	39.84	16.44
80	20.0000	42.11	16.94
84	21.0000	44.38	17.44
88	22.0000	46.64	17.94
92	23.0000	48.91	18.44
96	24.0000	51.18	18.94
100	25.0000	53.45	19.44
104	26.0000	55.72	19.94
108	27.0000	57.98	20.44
112	28.0000	60.25	20.94
116	29.0000	62.52	21.44
120	30.0000	64.79	21.94
124	31.0000	67.06	22.44
128	32.0000	69.32	22.94
132	33.0000	71.59	23.44
136	34.0000	73.86	23.94
140	35.0000	76.13	24.44
144	36.0000	78.40	24.94



45 Degree Bay Window Size Chart

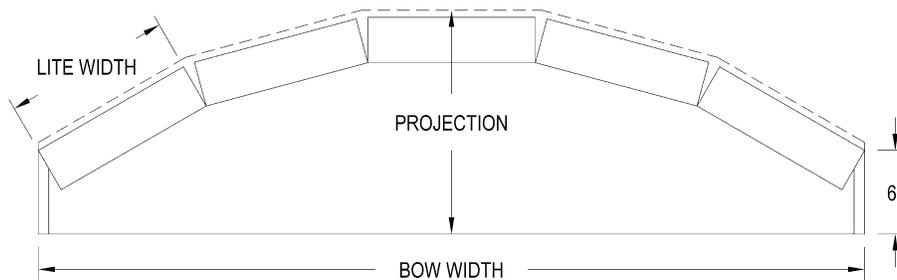
Use the chart below to determine window sizes.

The left column is the total width of the bay window. The sizes shown in the columns next to this are the widths of the side lites and center lites.

When calculating window heights, be sure to deduct 1-1/2" for regular Formica® head and seat, and 4-1/4" for insulated head and seat.

Standard jamb is 6".

TOTAL WIDTH	10 DEGREE		15 DEGREE		20 DEGREE	
	Lite Width	Total Projection With 6" Jamb	Lite Width	Total Projection With 6" Jamb	Lite Width	Total Projection With 6" Jamb
60	11.92	12.84	12.15	16.16	12.65	19.72
64	12.74	13.27	13.01	16.81	13.56	20.61
68	13.57	13.69	13.87	17.46	14.47	21.51
72	14.39	14.12	14.73	18.11	15.37	22.40
76	15.21	14.54	15.59	18.76	16.28	23.29
80	16.04	14.97	16.44	19.41	17.19	24.19
84	16.86	15.39	17.30	20.07	18.09	25.08
88	17.69	15.82	18.16	20.72	19.00	25.97
92	18.51	16.24	19.02	21.37	19.91	26.87
96	19.34	16.67	19.87	22.02	20.81	27.76
100	20.16	17.09	20.73	22.67	21.72	28.65
104	20.99	17.52	21.59	23.32	22.63	29.54
108	21.81	17.94	22.45	23.97	23.53	30.44
112	22.64	18.37	23.30	24.62	24.44	31.33
116	23.46	18.80	24.16	25.27	25.35	32.22
120	24.29	19.22	25.02	25.92	26.25	33.12
124	25.11	19.65	25.88	26.57	27.16	34.01
128	25.94	20.07	26.73	27.22	28.07	34.90
132	26.76	20.50	27.59	27.88	28.97	35.80
136	27.59	20.92	28.45	28.53	29.88	36.69
140	28.41	21.35	29.31	29.18	30.79	37.58
144	29.24	21.77	30.17	29.83	31.69	38.47



4-Lite Bow Window Size Chart

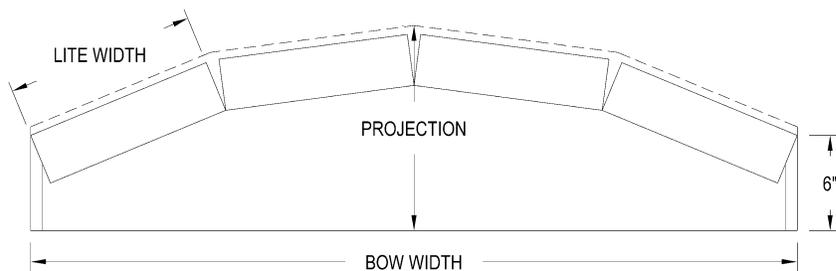
Use the chart below to determine window sizes.

The left column is the total width of the bay window. The sizes shown in the columns next to this are the widths of the side lites and center lites.

When calculating window heights, be sure to deduct 1-1/2" for regular Formica® head and seat, and 4-1/4" for insulated head and seat.

Standard jamb is 6".

TOTAL WIDTH	10 DEGREE		15 DEGREE		20 DEGREE	
	Lite Width	Total Projection With 6" Jamb	Lite Width	Total Projection With 6" Jamb	Lite Width	Total Projection With 6" Jamb
60	14.86	11.75	15.01	14.45	15.33	17.27
64	15.88	12.10	16.05	14.98	16.41	17.99
68	16.90	12.46	17.10	15.52	17.49	18.72
72	17.92	12.81	18.14	16.06	18.57	19.45
76	18.94	13.16	19.19	16.59	19.65	20.18
80	19.96	13.52	20.23	17.13	20.73	20.90
84	20.98	13.87	21.28	17.66	21.81	21.63
88	22.00	14.22	22.32	18.20	22.90	22.36
92	23.02	14.57	23.36	18.73	23.98	23.09
96	24.03	14.93	24.41	19.27	25.06	23.82
100	25.05	15.28	25.45	19.80	26.14	24.54
104	26.07	15.63	26.50	20.34	27.22	25.27
108	27.09	15.98	27.54	20.88	28.30	26.00
112	28.11	16.34	28.59	21.41	29.38	26.73
116	29.13	16.69	29.63	21.95	30.46	27.46
120	30.15	17.04	30.67	22.48	31.54	28.18
124	31.17	17.39	31.72	23.02	32.62	28.91
128	32.19	17.75	32.76	23.55	33.70	29.64
132	33.21	18.10	33.81	24.09	34.78	30.37
136	34.23	18.45	34.85	24.63	35.86	31.10
140	35.25	18.81	35.89	25.16	36.94	31.82
144	36.27	19.16	36.94	25.70	38.02	32.55



5-Lite Bow Window Size Chart

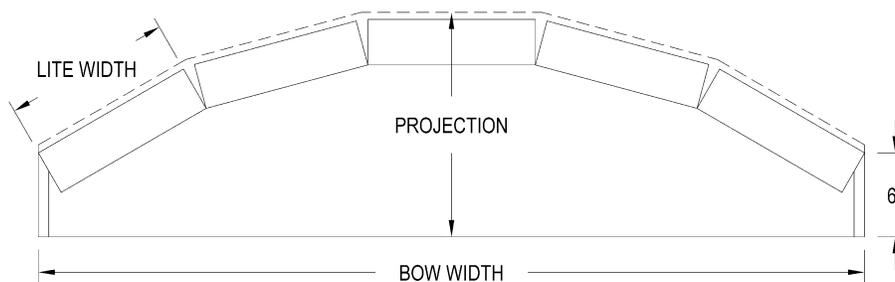
Use the chart below to determine window sizes.

The left column is the total width of the bay window. The sizes shown in the columns next to this are the widths of the side lites and center lites.

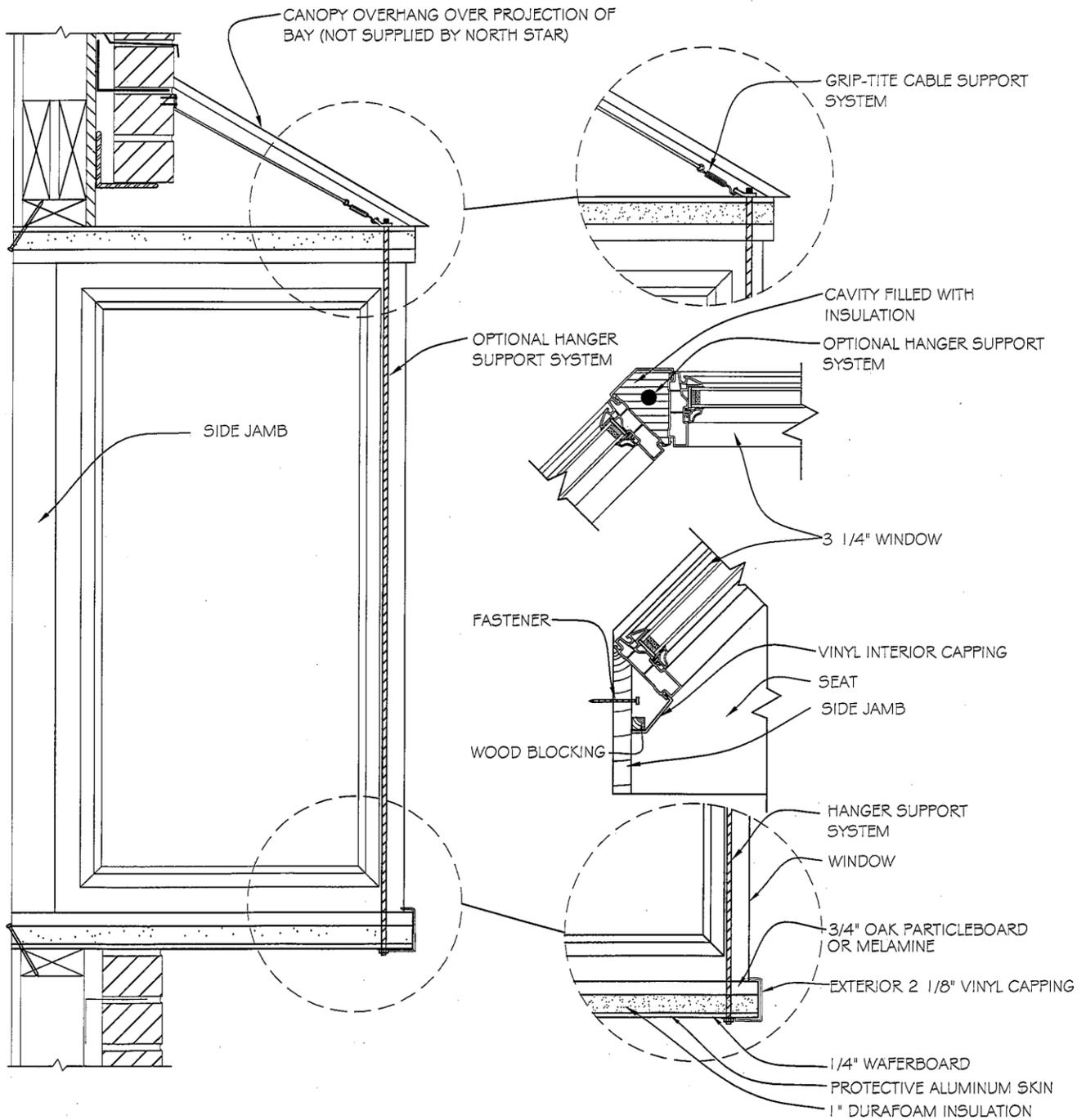
When calculating window heights, be sure to deduct 1-1/2" for regular Formica® head and seat, and 4-1/4" for insulated head and seat.

Standard jamb is 6".

TOTAL WIDTH	10 DEGREE		15 DEGREE		20 DEGREE	
	Lite Width	Total Projection With 6" Jamb	Lite Width	Total Projection With 6" Jamb	Lite Width	Total Projection With 6" Jamb
60	11.92	12.84	12.15	16.16	12.65	19.72
64	12.74	13.27	13.01	16.81	13.56	20.61
68	13.57	13.69	13.87	17.46	14.47	21.51
72	14.39	14.12	14.73	18.11	15.37	22.40
76	15.21	14.54	15.59	18.76	16.28	23.29
80	16.04	14.97	16.44	19.41	17.19	24.19
84	16.86	15.39	17.30	20.07	18.09	25.08
88	17.69	15.82	18.16	20.72	19.00	25.97
92	18.51	16.24	19.02	21.37	19.91	26.87
96	19.34	16.67	19.87	22.02	20.81	27.76
100	20.16	17.09	20.73	22.67	21.72	28.65
104	20.99	17.52	21.59	23.32	22.63	29.54
108	21.81	17.94	22.45	23.97	23.53	30.44
112	22.64	18.37	23.30	24.62	24.44	31.33
116	23.46	18.80	24.16	25.27	25.35	32.22
120	24.29	19.22	25.02	25.92	26.25	33.12
124	25.11	19.65	25.88	26.57	27.16	34.01
128	25.94	20.07	26.73	27.22	28.07	34.90
132	26.76	20.50	27.59	27.88	28.97	35.80
136	27.59	20.92	28.45	28.53	29.88	36.69
140	28.41	21.35	29.31	29.18	30.79	37.58
144	29.24	21.77	30.17	29.83	31.69	38.47



Bay Window Installation Details



Note: All bay and bow windows must be supported to avoid sagging; failure to do so will void all warranty.

Cable Support System for Projection Windows – 1000 Series



The Cable Support System, featuring the straight line clamp is used to secure the cable to the window. The unique design features a “no-slip” function that locks the cable in place. This is key!

With other types of cable systems, a loop is formed. Should a problem develop afterwards, the weight of the window will collapse that loop – no matter how tightly it is drawn at installation – and the sagging problem will still occur.

With the straight line clamp, the cable is taut at final installation, and will remain that way. With the use of a cable support system, all sagging problems are virtually eliminated!

Caution:

Always use additional means of supporting the window during installation of Cable Support Systems.

CABLE SUPPORT KIT

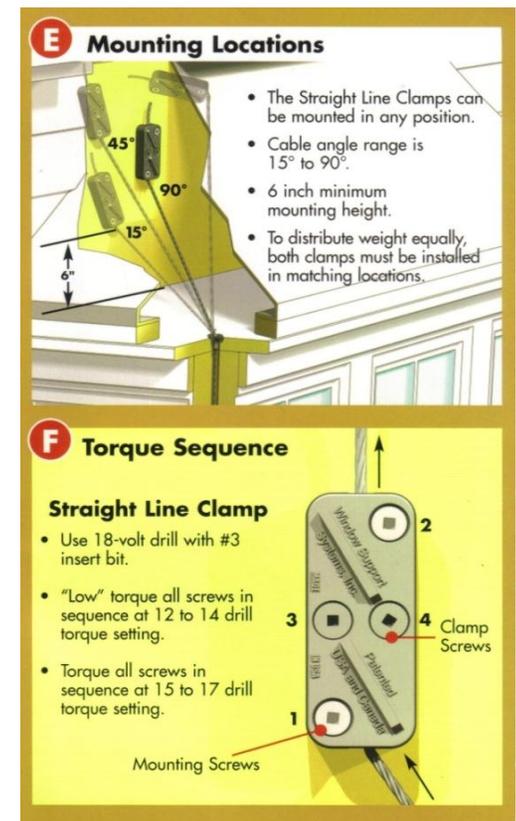
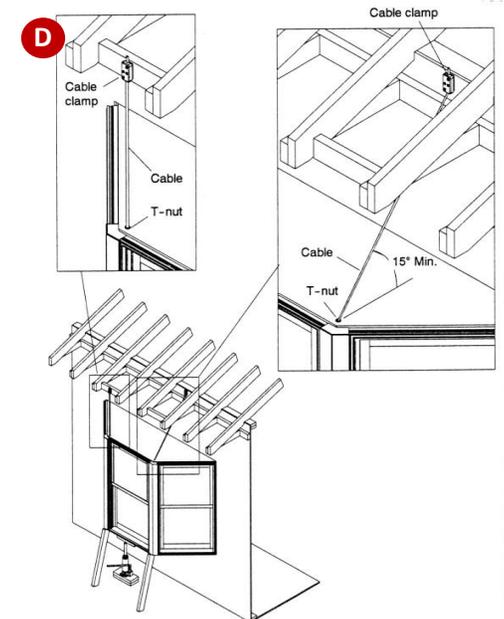
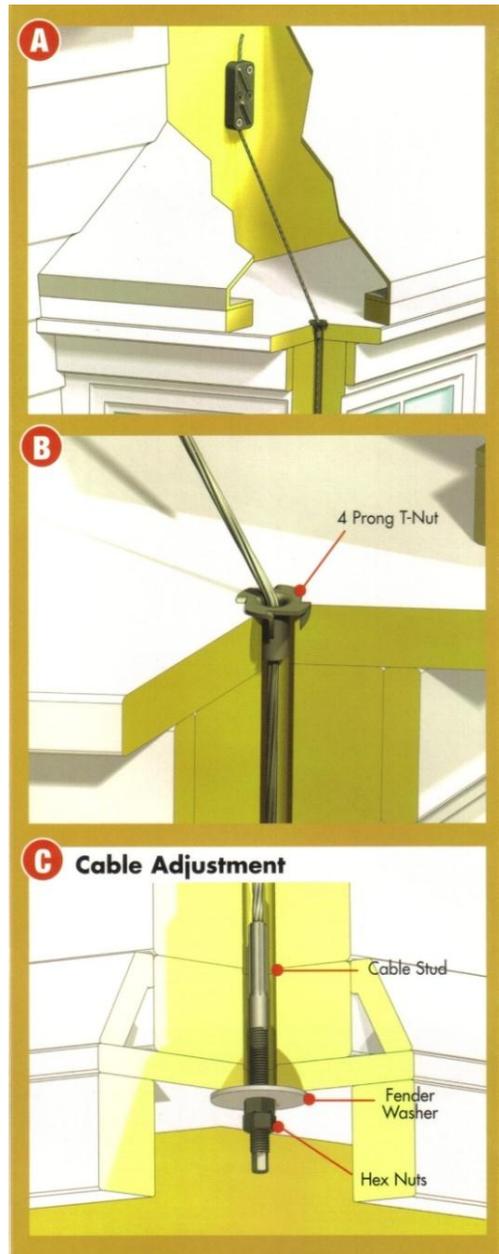
Installation Instructions

Straight Line Clamp

1. Select the mounting locations for the Straight Line Clamps. **A, D, E**
2. Holding clamps in place, drive the mounting screws (#12 x 3" wood screws) halfway in, making sure the screws are straight. This will allow free operation of the clamps during cable installation.
Note: The appropriate size Robertson bit is included with the cable support system. **E**
3. Check to ensure that the cable hex nuts have been placed 1" from the end of the threaded cable end. If not, adjust hex nut to the 1" specification. This requirement is for final adjustment purposes. **C**
4. With window level, pull cables up and through the Straight Line Clamp. **A, F**
5. With cables set to the correct distance, secure the Straight Line Clamps. **F**
6. Setting 18-volt drill to medium torque (12 to 14) while holding the cables tight through the clamps, evenly torque the four screws on each clamp. Then, set the drill to a higher torque (15 to 17) and, torque all screws in sequence. **F**
7. After cables are secure, adjust cable tension using pliers to hold threaded end of the cable. This will keep the cable from twisting as the hex nuts are tightened with a 1/2" wrench. Position window slightly above level so that only downward adjusting is required. Do not cut the threaded end of the cable as this will prevent future adjustment should it be needed. **C**

Position window slightly above level so that only downward adjusting is required.

Note: Double check for level and square before securing window to rough opening



Maximum and Minimum Sizes

SIZE LIMITATIONS (1000 SERIES)			
Window Type		Minimum Overall Size	Maximum One Way
1071 Picture (No Sash)	Double Glazed	10" x 10"	132" or 30 sq. ft. *
	Triple Glazed	N/A	130" or 22 sq. ft.
1072 Picture (With Sash)	Double Glazed	12" x 12"	132" or 40 sq. ft. *
	Triple Glazed	N/A	130" or 30 sq. ft.
1171 Casement	Double Glazed	14-3/4" x 17"	Max. 108 U.I (width plus height) Width cannot be greater than 36" Height cannot be greater than 78"
	Triple Glazed	14-3/4" x 17"	Max. 98 U.I (width plus height) Width cannot be greater than 36" Height cannot be greater than 78"
1173 Awning	Double Glazed	21" x 14-3/4"	Max. 108 U.I (width plus height) Width cannot be greater than 60" Height cannot be greater than 48"
	Triple Glazed	21" x 14-3/4"	Max. 96 U.I (width plus height) Width cannot be greater than 60" Height cannot be greater than 48"
1271 Double Hung Tilt	Double Glazed	12" x 22"	Max. 120 U.I (width plus height) Width cannot be greater than 48" Height cannot be greater than 78"
	Triple Glazed	12" x 22"	Max. 104 U.I (width plus height) Width cannot be greater than 42" Height cannot be greater than 78"
1272 Double Slider Tilt	Double Glazed	22" x 12"	Max. 126 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 54"
	Triple Glazed	22" x 12"	Max. 106 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 54"
1273 Double Slider Liftout	Double Glazed	21" x 13"	Max. 132 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 60"
	Triple Glazed	21" x 13"	Max. 114 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 54"

***Some glass options will have other size restrictions**

Maximum and Minimum Sizes

SIZE LIMITATIONS (1000 SERIES)			
Window Type		Minumim Overall Size	Maximum One Way
1371 Single Hung Tilt	Double Glazed	13" x 21"	Max. 120 U.I (width plus height) Width cannot be greater than 48" Height cannot be greater than 78"
	Triple Glazed	13" x 21"	Max. 104 U.I (width plus height) Width cannot be greater than 42" Height cannot be greater than 78"
1372 Single Slider Lifout/ 1373 Reverse Single Slider Liftout	Double Glazed	22" x 13"	Max. 132 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 60"
	Triple Glazed	22" x 13"	Max. 114 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 54"
1374 3-Lite (End Vent) Single Slider Liftout	Double Glazed	48" x 13"	Max. 168 U.I (width plus height) Width cannot be greater than 120" Height cannot be greater than 60"
	Triple Glazed	48" x 13"	Max. 144 U.I (width plus height) Width cannot be greater than 108" Height cannot be greater than 54"
1377 Picture (Singles Frame)	Double Glazed	13" x 13"	132" or 40 sq. ft. *
	Triple Glazed	N/A	20 sq. ft.

***Some glass options will have other size restrictions**



North Star Egress Windows – CANADA – 1000 Series

STYLE #1171 – CASEMENT (STANDARD HARDWARE)				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq. ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
24 13/16"	21"	24 13/16" x 41 1/4"	- 9 13/16"	- 4 3/4"
STYLE #1171 – CASEMENT (*EGRESS HARDWARE)				
22 1/4"	19 3/4"	22 1/4" x 41 1/4"	- 7 1/4"	- 4 3/4"

STYLE #1271 – DOUBLE HUNG TILT				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq. ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
20 1/8"	43 1/2"	32" x 55"	- 5 1/8"	(x.5) - 6 3/4"

STYLE #1371 – SINGLE HUNG TILT				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq. ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
19 3/4"	45"	32" x 55 1/4"	- 4 3/4"	(x.5) - 7 1/2"

STYLE #1272 – DOUBLE SLIDER TILT OR STYLE #1273 – DOUBLE SLIDER LIFTOUT				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq. ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
43"	20 1/4"	48" x 36 3/4"	(x.5) - 6 1/2"	- 5 1/4"

STYLE #1372 – SINGLE SLIDER LIFTOUT				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq. ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
40"	19 3/4"	46" x 35 1/4"	(x.5) - 5"	- 4 3/4"

Please Note:

Opening sizes shown are based on standard manufacturing allowance opening of the sashes.
 Vertical and horizontal sliding windows may be altered by trimming the vinyl sash stops to meet minimum openings or square footage requirements. Consult your North Star Representative.
 All operators which slide are calculated with 50/50 split.
 Opening sizes decrease when CMR is off-centered.
 When calculating sizes other than the examples shown, use the formula to determine the size of the opening. Windows cannot be smaller than the minimum widths and heights shown.
 e.g. – Casement window 28(w) x 40(h)
 $28(w) - 9 \frac{13}{16} = 18 \frac{3}{16}$ $40(h) - 4 \frac{3}{4} - 35 \frac{1}{4}$ with standard hardware
 $18 \frac{3}{16} \times 35 \frac{1}{4} / 144 = 4.45$ sq. ft. opening



North Star Egress Windows – UNITED STATES – 1000 Series

STYLE #1171 – CASEMENT (STANDARD HARDWARE)					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq. ft. opening)	2 nd Floor (5.7 sq. ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
30"	29"	30" x 40 1/2"	30" x 46"	- 9 13/16"	- 4 3/4"
STYLE #1171 – CASEMENT (*EGRESS HARDWARE)					
27 1/2"	29"	27 1/2" x 40 1/2"	27 1/2" x 46"	- 7 1/4"	- 4 3/4"

STYLE #1271 – DOUBLE HUNG TILT					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq. ft. opening)	2 nd Floor (5.7 sq. ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
25 1/4"	61 1/2"	35 3/4" x 61"	39" x 62"	- 5 1/8"	(x.5) - 6 3/4"

STYLE #1371 – SINGLE HUNG TILT					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq. ft. opening)	2 nd Floor (5.7 sq. ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
26 3/4"	58 3/4"	37 3/4" x 57"	40 3/4" x 58 3/4"	- 6 1/2"	(x.5) - 5 1/4"

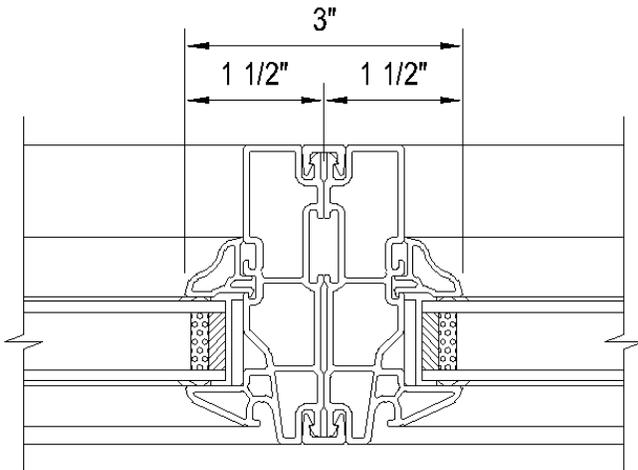
STYLE #1272 – DOUBLE SLIDER TILT OR STYLE #1273 DOUBLE SLIDER LIFTOUT					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq. ft. opening)	2 nd Floor (5.7 sq. ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
53"	59 1/2"	59 1/4" x 36 1/2"	59 3/4" x 40 1/2"	(x.5) - 6 1/2"	- 5 1/4"

STYLE #1372 – SINGLE SLIDER LIFTOUT					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq. ft. opening)	2 nd Floor (5.7 sq. ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
50"	29"	58" x 35"	59 1/2" x 38"	(x.5) - 5"	- 4 3/4"

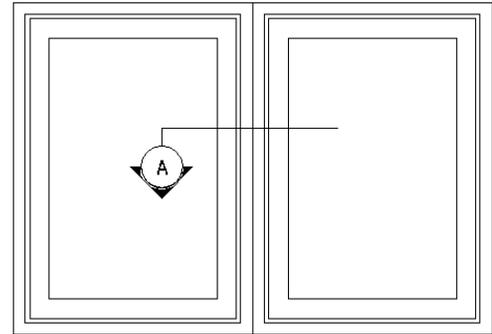
Please Note:

Opening sizes shown are based on standard manufacturing allowance opening of the sashes.
 Vertical and horizontal sliding windows may be altered by trimming the sash stops to help meet minimum openings or square footage requirements. Consult your North Star Representative.
 All operators which slide are calculated with 50/50 split.
 Opening sizes decrease when CMR is off-centered.
 When calculating sizes other than the examples shown, use the formula to determine the size of the opening. Windows cannot be smaller than the minimum widths and heights shown.
 e.g. – Casement window 30(w) x 40 1/2(h)
 $30(w) - 9 \frac{13}{16} = 20 \frac{7}{16}$ $40 \frac{1}{2}(h) - 4 \frac{3}{4} = 34 \frac{3}{4}$
 $20 \frac{7}{16} \times 35 \frac{3}{4} = 721.70 \div 144 = 5.01$ sq. ft. opening

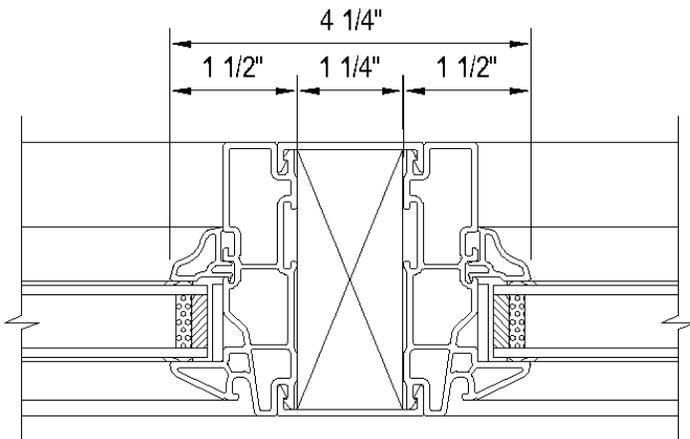
**1071 Picture Window (No Sash) -
Mullion Details**



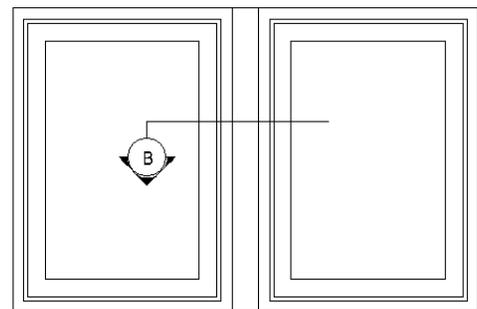
A - FIXED/FIXED
MULLION DETAIL



ELEVATION
EXTERIOR VIEW

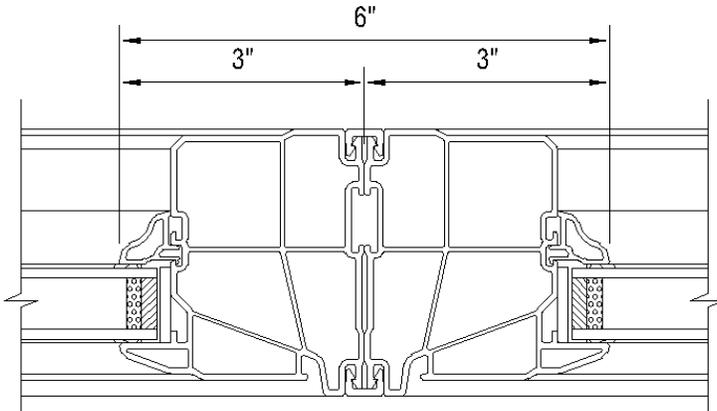


B - FIXED/FIXED
MULLION REINFORCEMENT DETAIL

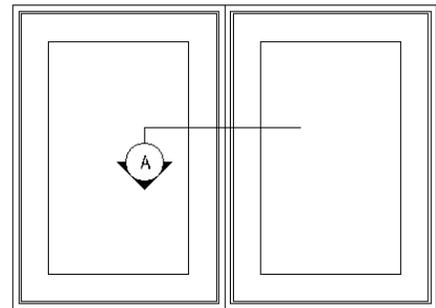


ELEVATION
EXTERIOR VIEW

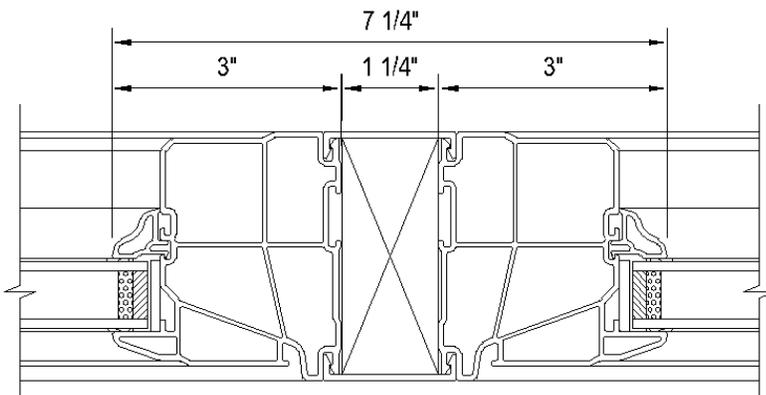
**1072 Picture Window (With Sash) -
Mullion Details**



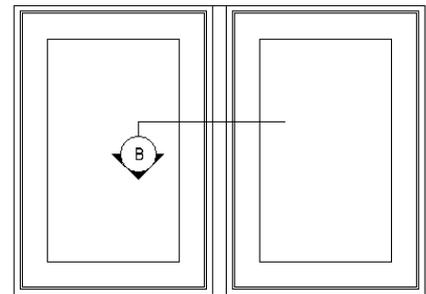
A - PICTURE/PICTURE
MULLION DETAIL



ELEVATION
EXTERIOR VIEW

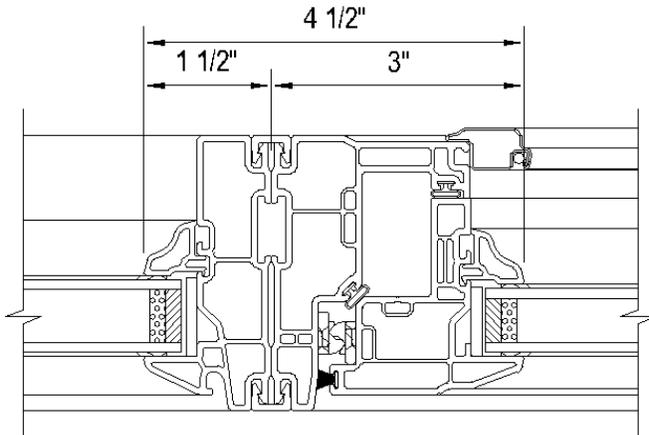


B - PICTURE/PICTURE
MULLION REINFORCEMENT DETAIL

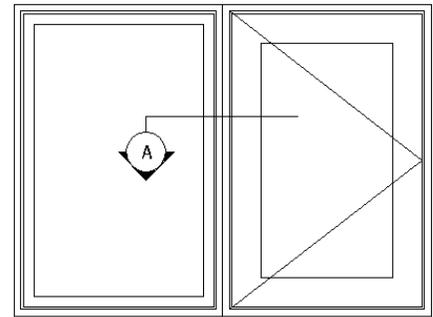


ELEVATION
EXTERIOR VIEW

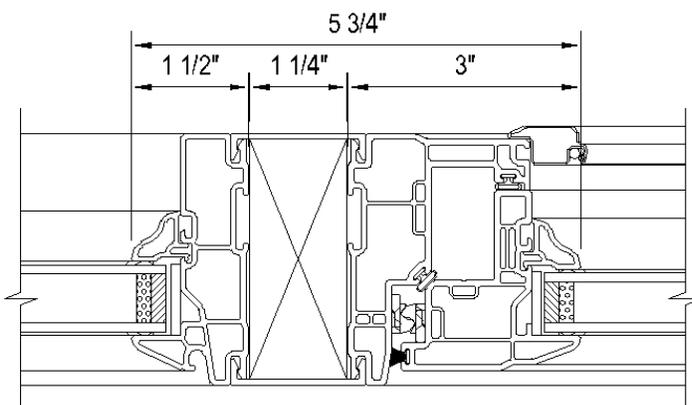
1171 Casement Window - Mullion
Details



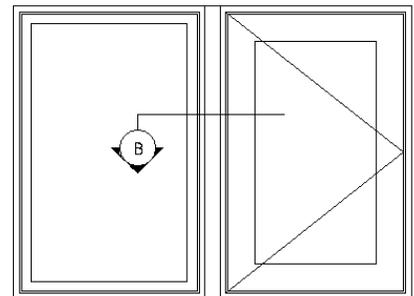
A - FIXED/CASEMENT
MULLION DETAIL



ELEVATION
EXTERIOR VIEW - RIGHT HAND HINGE

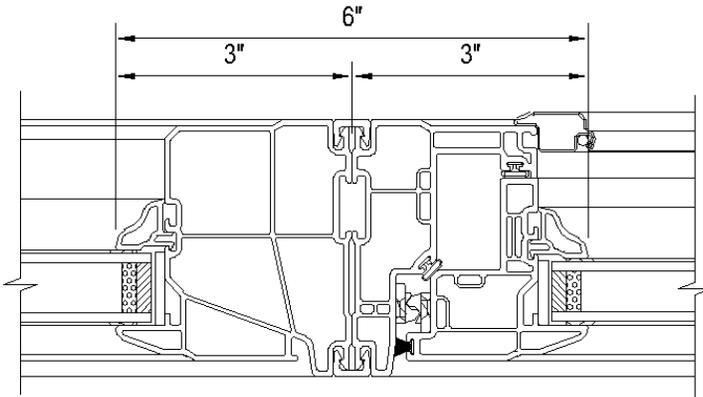


B - FIXED/CASEMENT
MULLION REINFORCEMENT DETAIL

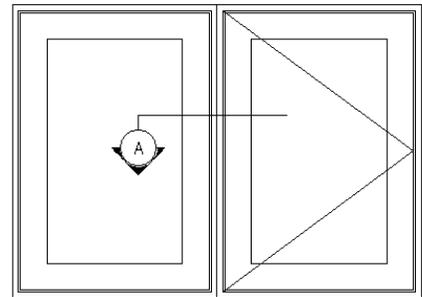


ELEVATION
EXTERIOR VIEW - RIGHT HAND HINGE

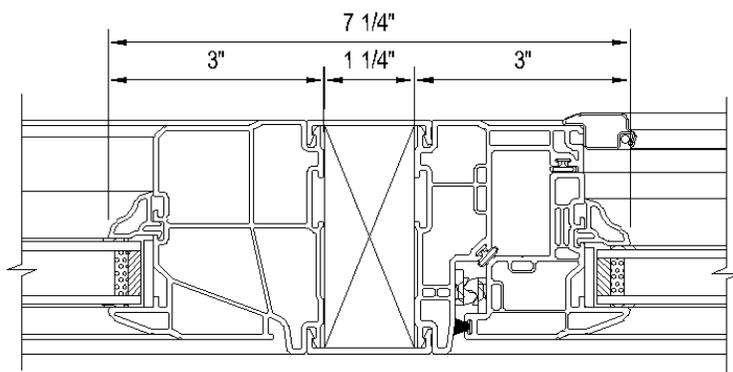
1171 Casement Window - Mullion
Details



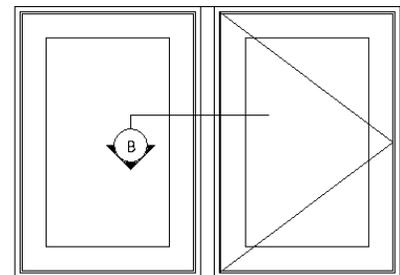
A - PICTURE/CASEMENT
MULLION DETAIL



ELEVATION
EXTERIOR VIEW - RIGHT HAND HINGE



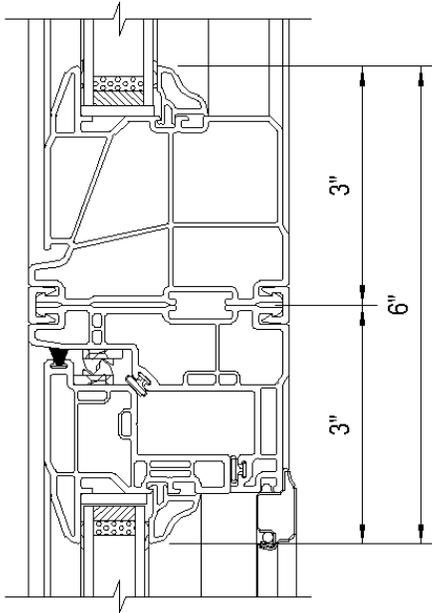
B - PICTURE/CASEMENT
MULLION REINFORCEMENT DETAIL



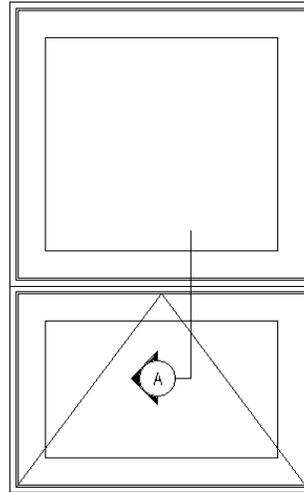
ELEVATION
EXTERIOR VIEW - RIGHT HAND HINGE

1173 Awning Window - Mullion

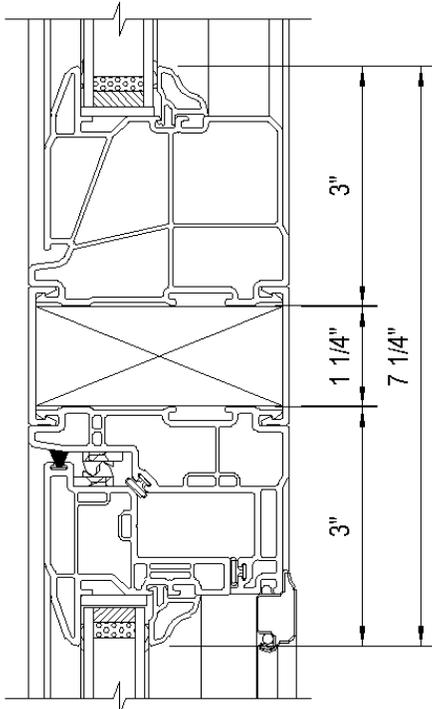
Details



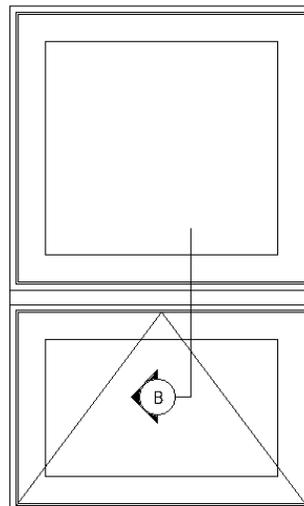
A - PICTURE OVER AWNING
MULLION DETAIL



ELEVATION
EXTERIOR VIEW



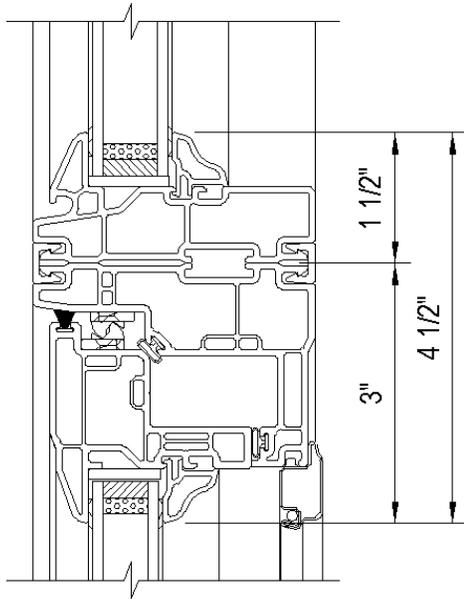
B - PICTURE OVER AWNING
MULLION REINFORCEMENT DETAIL



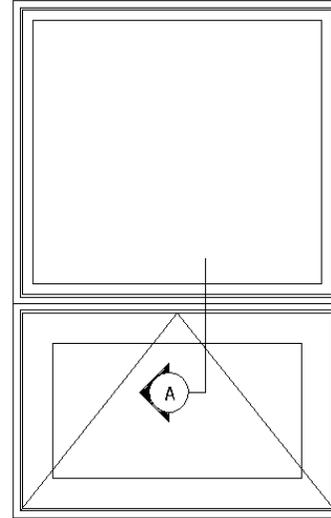
ELEVATION
EXTERIOR VIEW

1173 Awning Window - Mullion

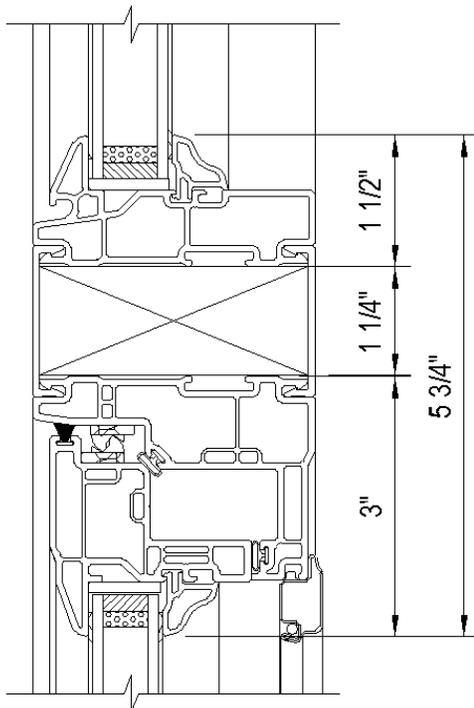
Details



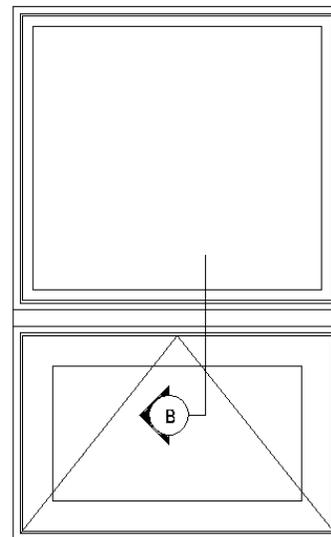
A - FIXED OVER AWNING
MULLION DETAIL



ELEVATION
EXTERIOR VIEW

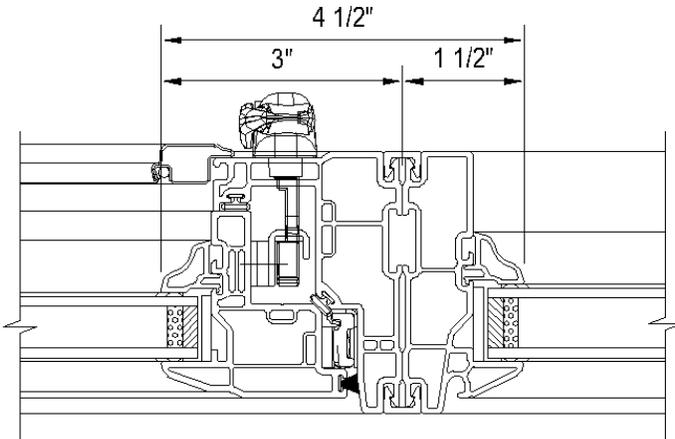


B - FIXED OVER AWNING
MULLION REINFORCEMENT DETAIL

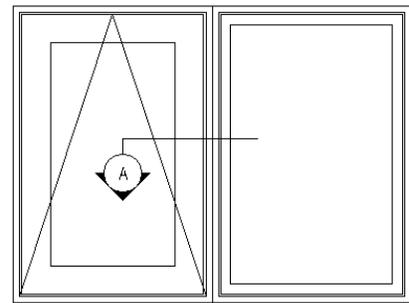


ELEVATION
EXTERIOR VIEW

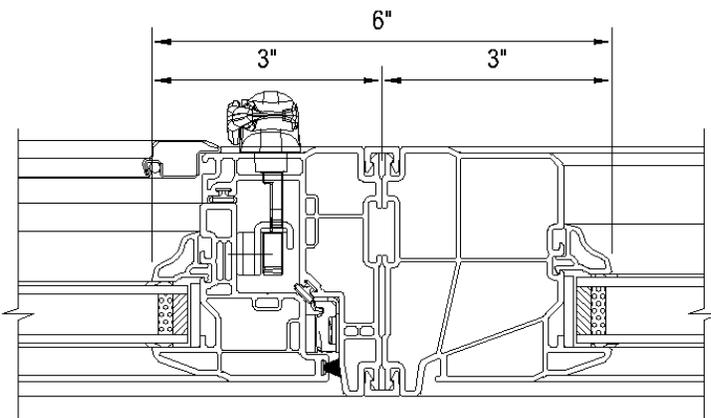
1173 Awning Window - Mullion
Details



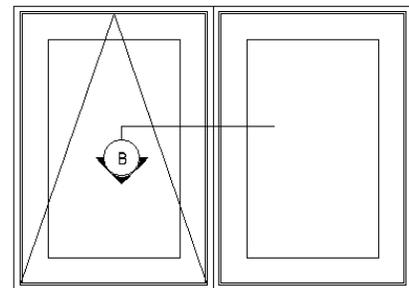
A - AWNING/FIXED
MULLION DETAIL



ELEVATION
EXTERIOR VIEW

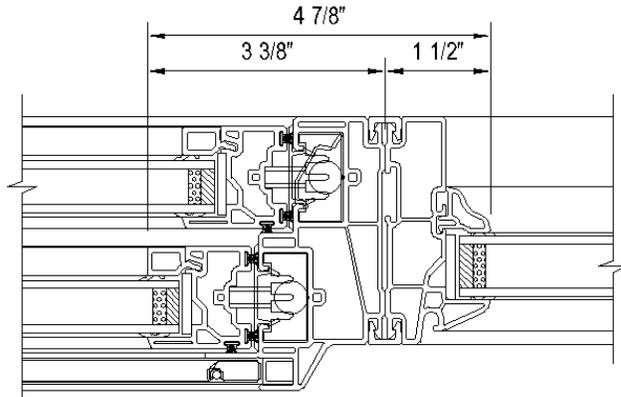


B - AWNING/PICTURE
MULLION DETAIL

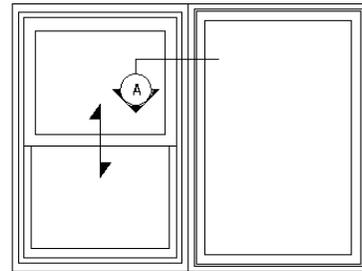


ELEVATION
EXTERIOR VIEW

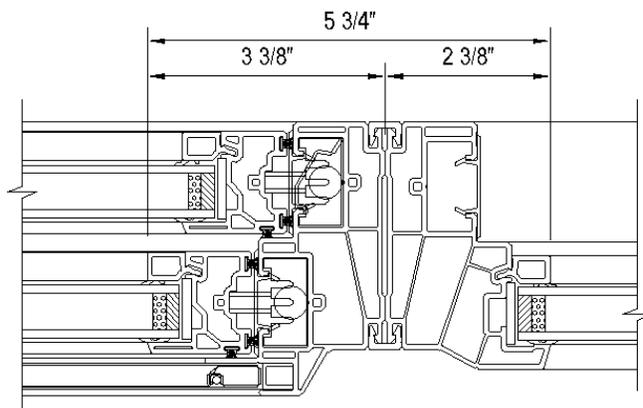
**1271 Double Hung Tilt Window -
Mullion Details**



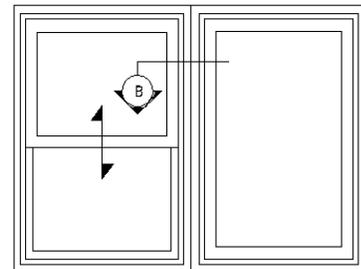
A - DOUBLE HUNG TILT/FIXED
MULLION DETAIL



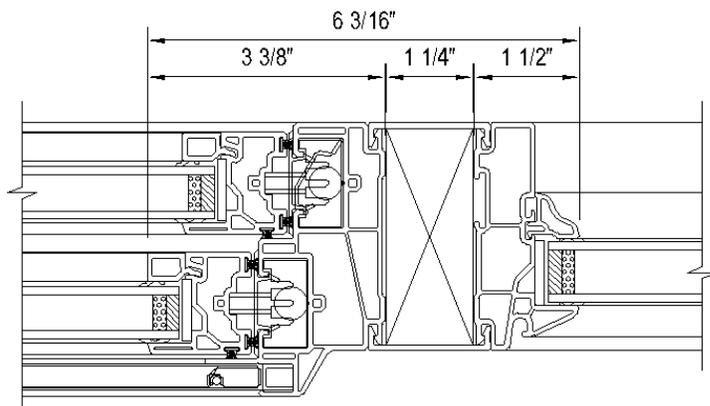
ELEVATION
EXTERIOR VIEW



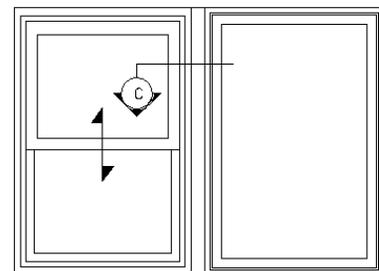
B - DOUBLE HUNG TILT/PICTURE (SINGLES FRAME)
MULLION DETAIL



ELEVATION
EXTERIOR VIEW

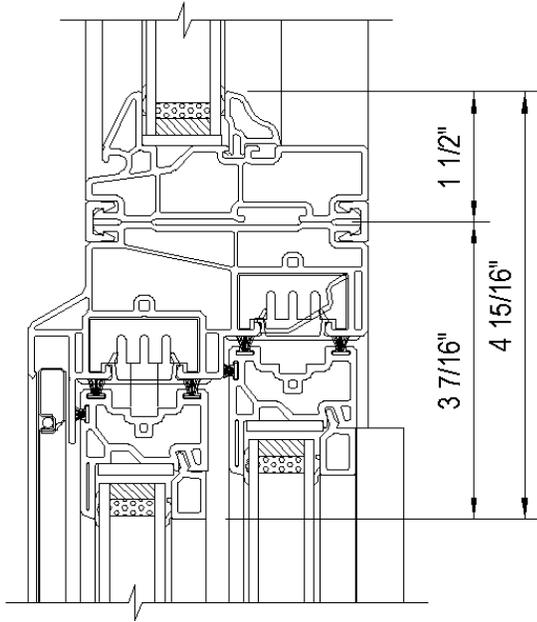


C - DOUBLE HUNG TILT/FIXED
MULLION REINFORCEMENT DETAIL

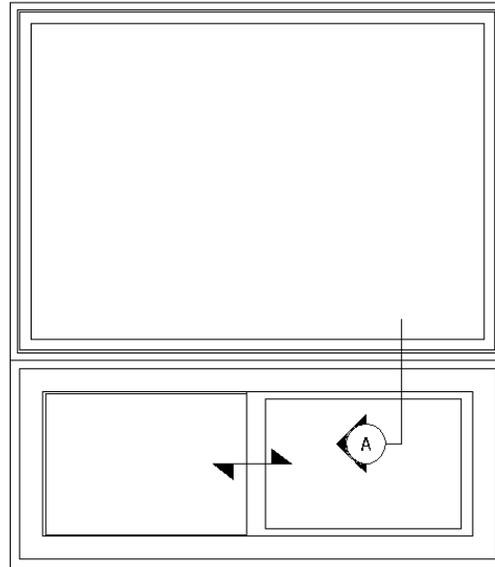


ELEVATION
EXTERIOR VIEW

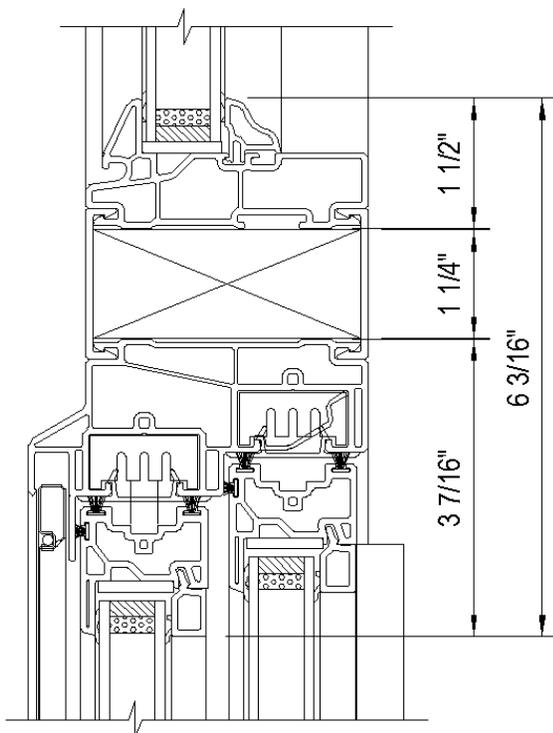
**1272 Double Slider Tilt Window -
Mullion Details**



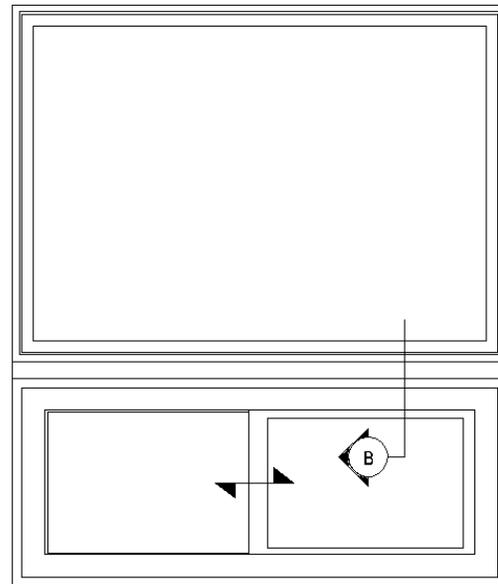
**A - FIXED OVER DOUBLE SLIDER TILT
MULLION DETAIL**



**ELEVATION
EXTERIOR VIEW**

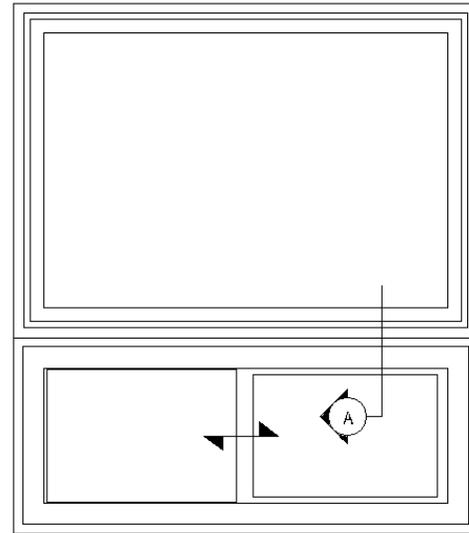
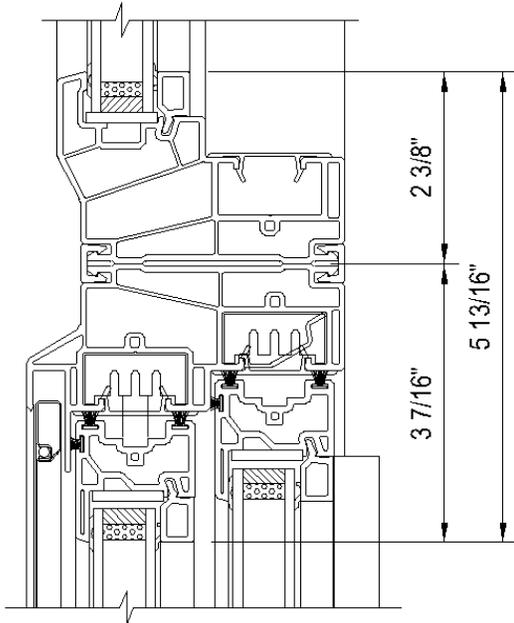


**B - FIXED OVER DOUBLE SLIDER TILT
MULLION REINFORCEMENT DETAIL**



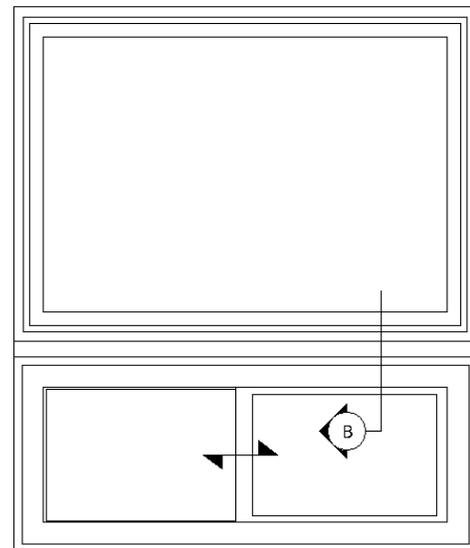
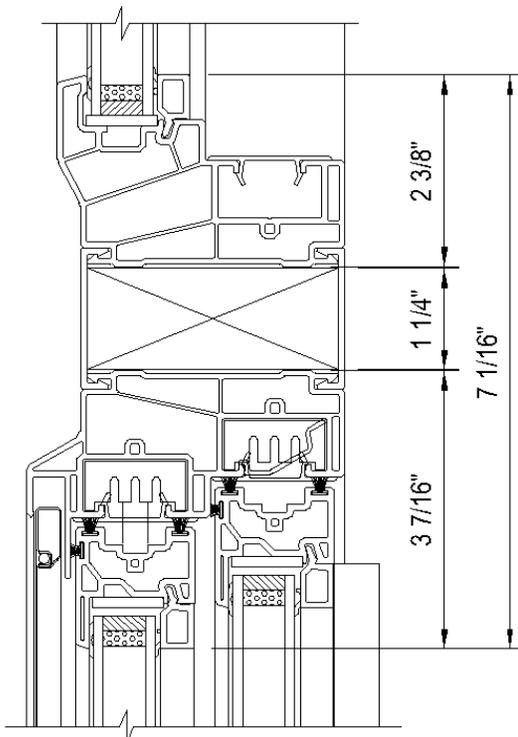
**ELEVATION
EXTERIOR VIEW**

**1272 Double Slider Tilt Window -
Mullion Details**



ELEVATION
EXTERIOR VIEW

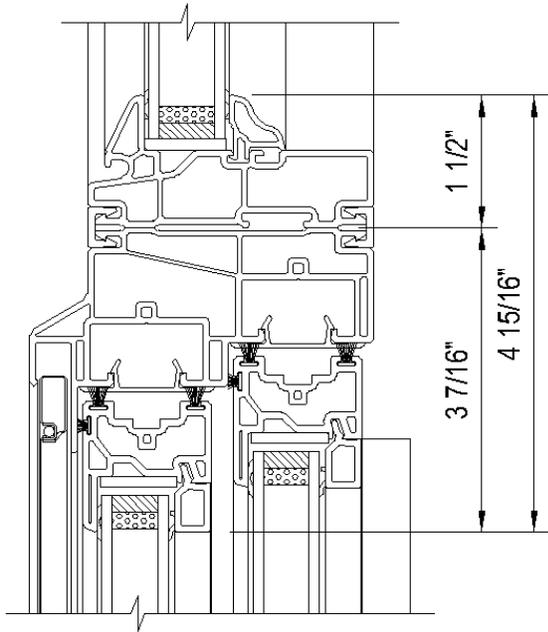
A - PICTURE (SINGLES FRAME) OVER DOUBLE SLIDER TILT
MULLION DETAIL



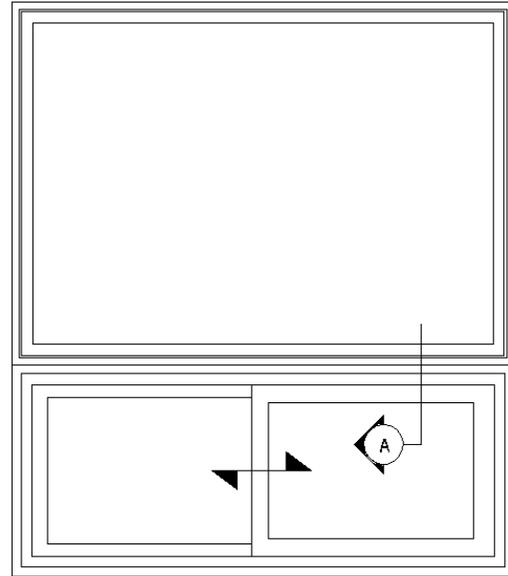
ELEVATION
EXTERIOR VIEW

B - PICTURE (SINGLES FRAME) OVER DOUBLE SLIDER TILT
MULLION REINFORCEMENT DETAIL

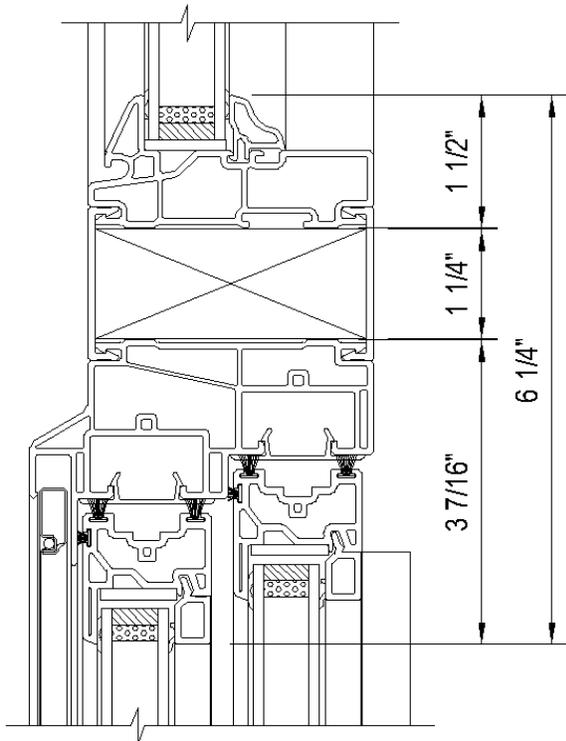
1273 Double Slider Liftout Window - Mullion Details



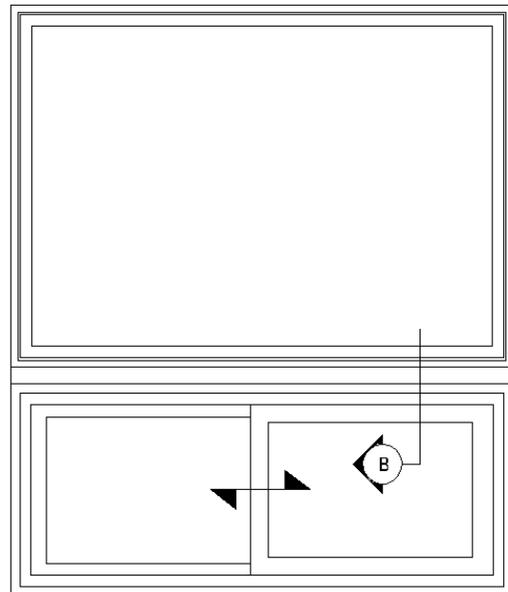
**A - FIXED OVER DOUBLE SLIDER LIFTOUT
MULLION DETAIL**



**ELEVATION
EXTERIOR VIEW**

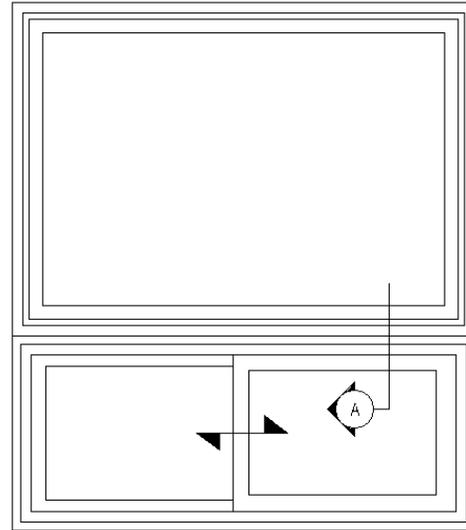
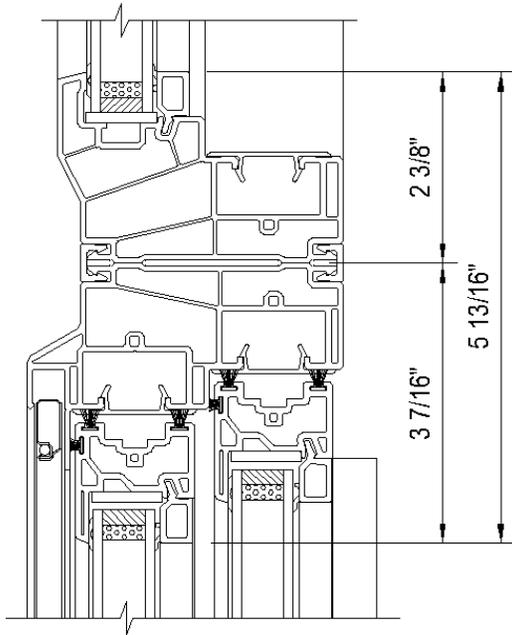


**B - FIXED OVER DOUBLE SLIDER LIFTOUT
MULLION REINFORCEMENT DETAIL**



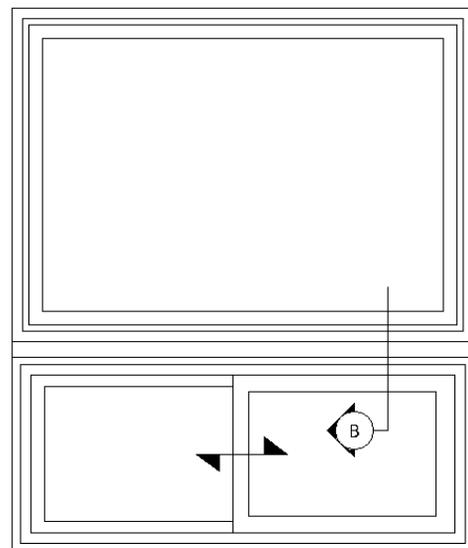
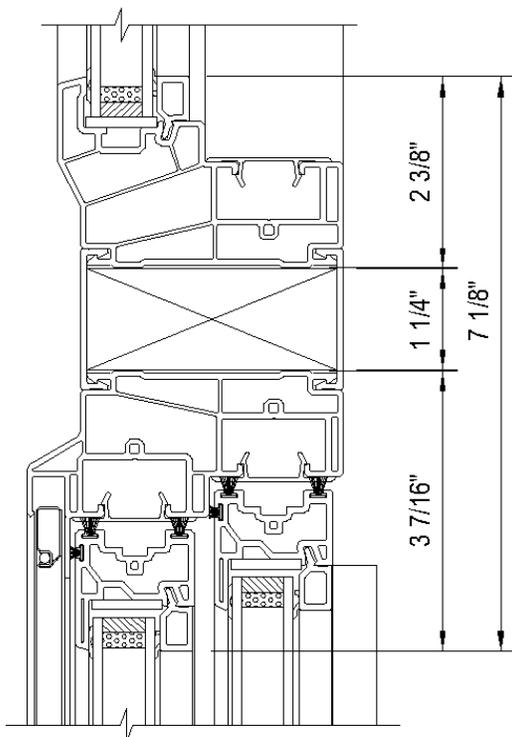
**ELEVATION
EXTERIOR VIEW**

**1273 Double Slider Liftout Window -
Mullion Details**



ELEVATION
EXTERIOR VIEW

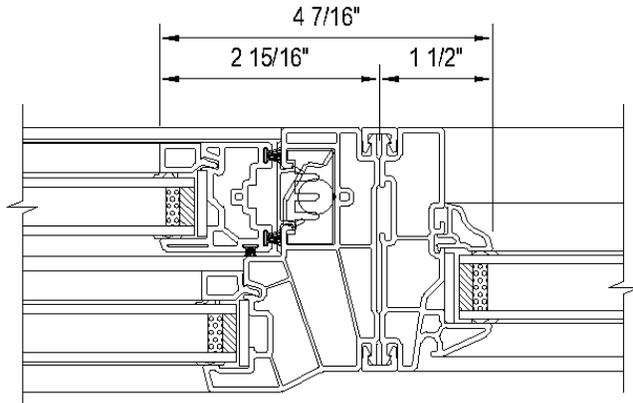
A - PICTURE (SINGLES FRAME) OVER DOUBLE SLIDER LIFTOUT
MULLION DETAIL



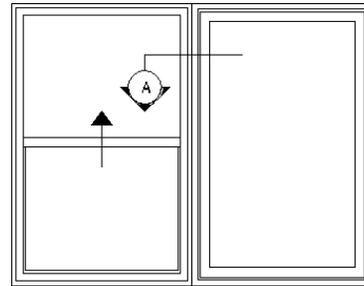
ELEVATION
EXTERIOR VIEW

B - PICTURE (SINGLES FRAME) OVER DOUBLE SLIDER LIFTOUT
MULLION REINFORCEMENT DETAIL

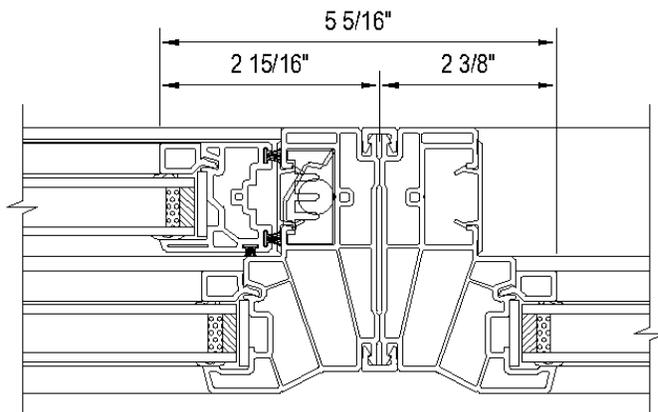
**1371 Single Hung Tilt Window -
Mullion Details**



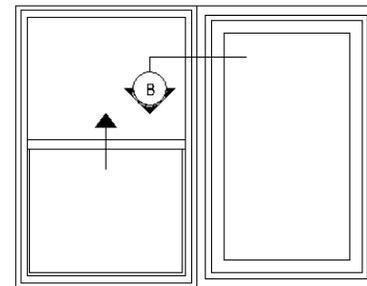
A - SINGLE HUNG TILT/FIXED
MULLION DETAIL



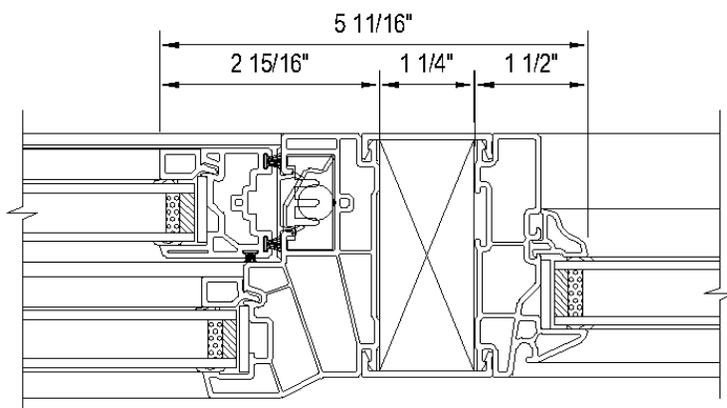
ELEVATION
EXTERIOR VIEW



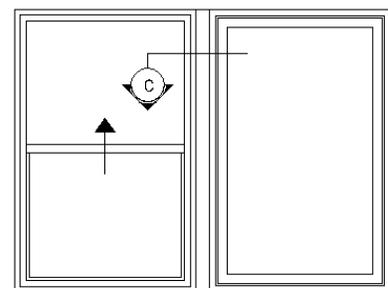
B - SINGLE HUNG TILT/PICTURE (SINGLES FRAME)
MULLION DETAIL



ELEVATION
EXTERIOR VIEW

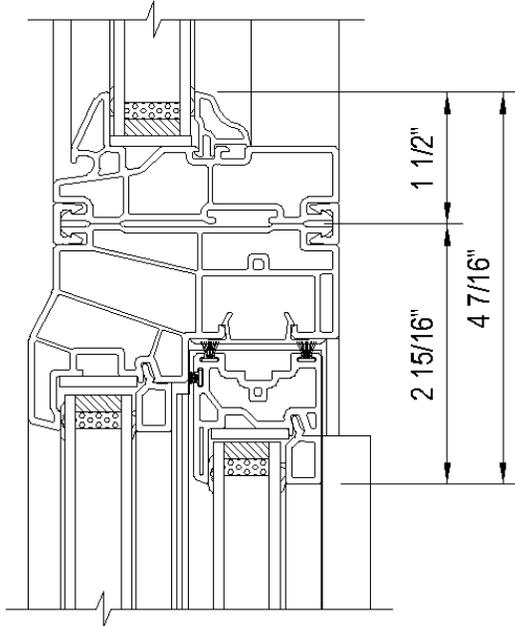


C - SINGLE HUNG TILT/FIXED
MULLION REINFORCEMENT DETAIL

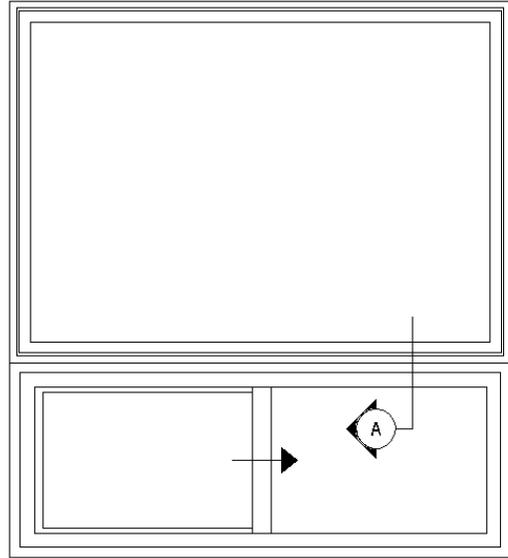


ELEVATION
EXTERIOR VIEW

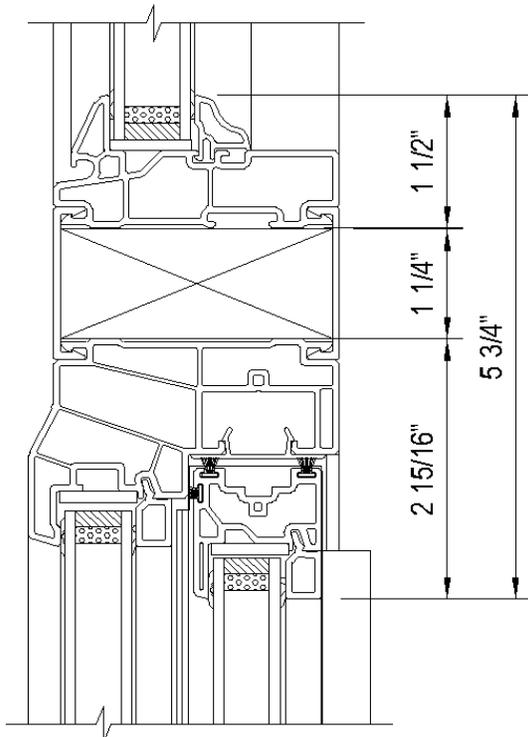
**1372 Single Slider Liftout Window -
Mullion Details**



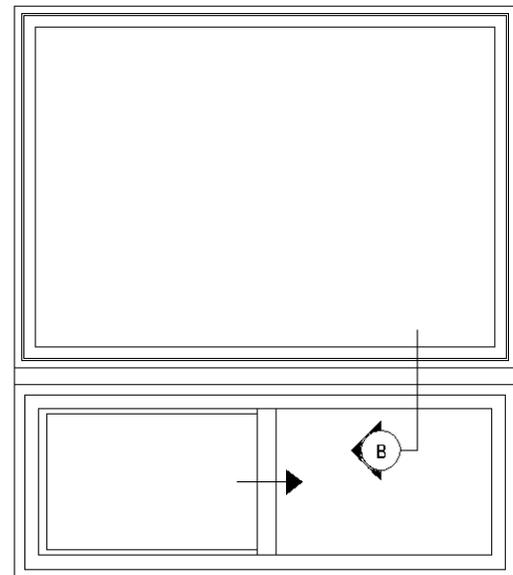
**A - FIXED OVER SINGLE SLIDER LIFTOUT
MULLION DETAIL**



**ELEVATION
EXTERIOR VIEW**

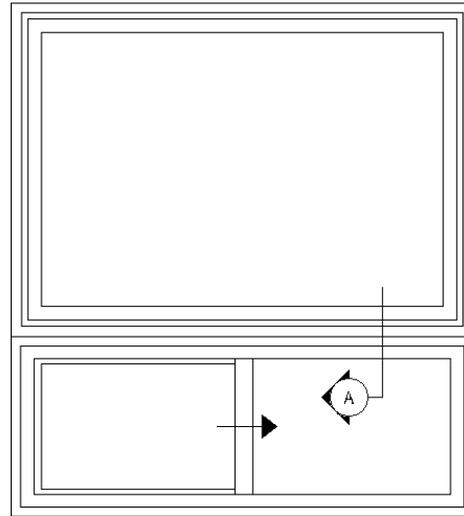
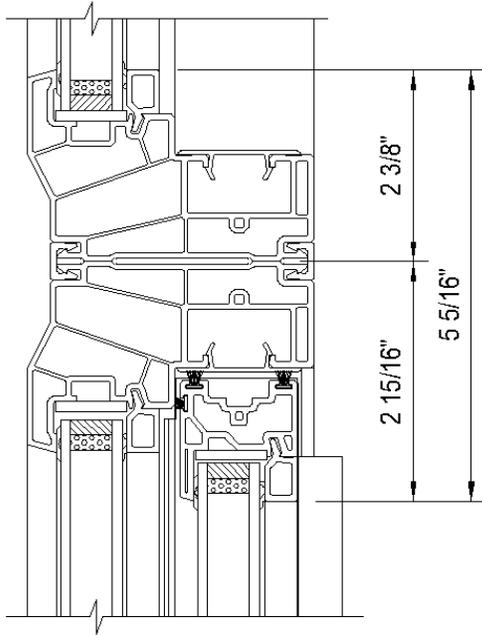


**B - FIXED OVER SINGLE SLIDER LIFTOUT
MULLION REINFORCEMENT DETAIL**



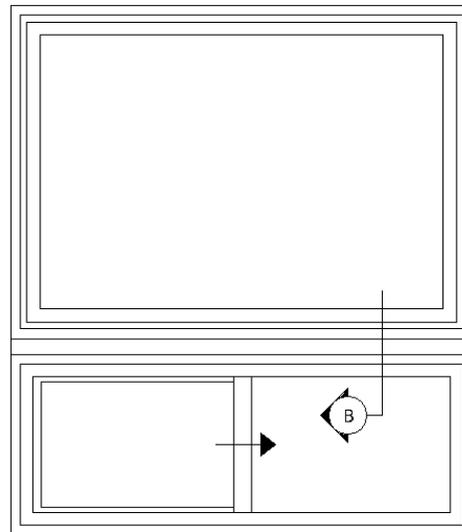
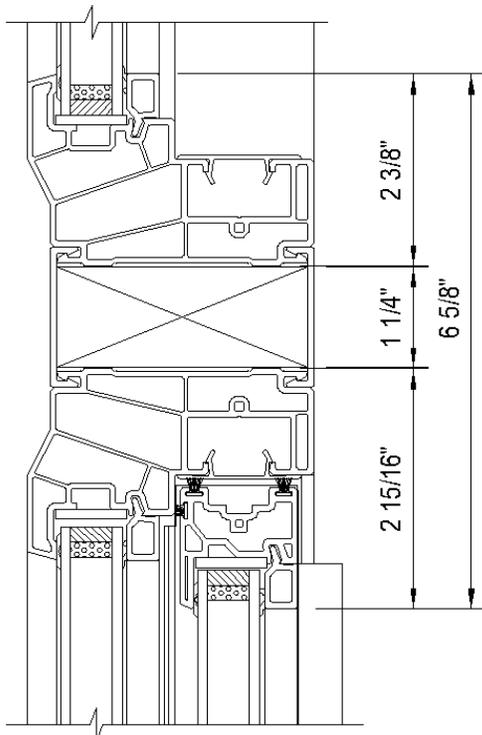
**ELEVATION
EXTERIOR VIEW**

**1372 Single Slider Liftout Window -
Mullion Details**



ELEVATION
EXTERIOR VIEW

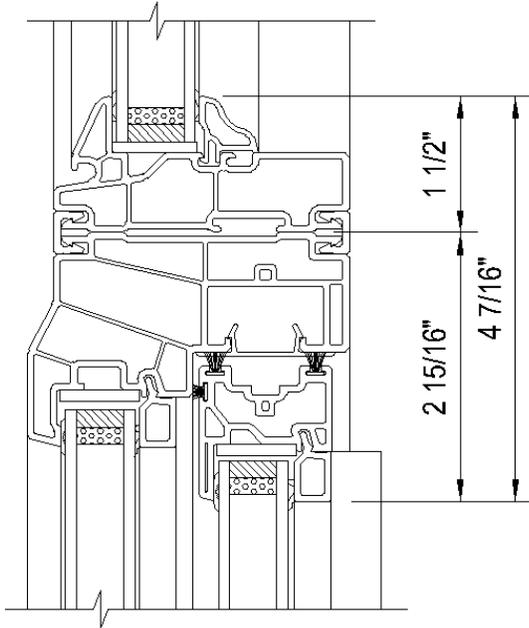
A - PICTURE (SINGLES FRAME) OVER SINGLE SLIDER LIFTOUT
MULLION DETAIL



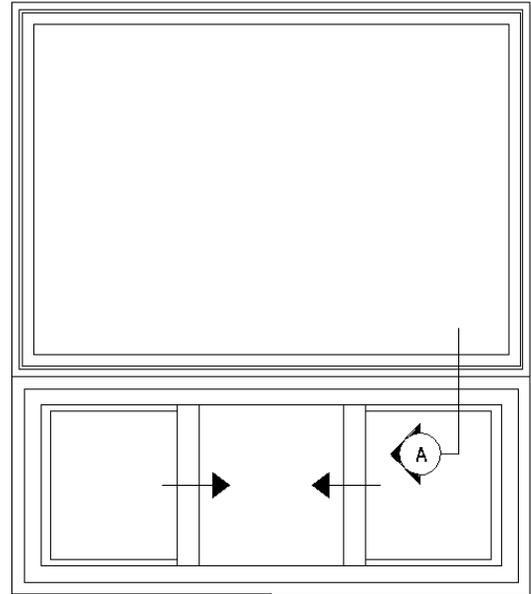
ELEVATION
EXTERIOR VIEW

B - PICTURE (SINGLES FRAME) OVER SINGLE SLIDER LIFTOUT
MULLION REINFORCEMENT DETAIL

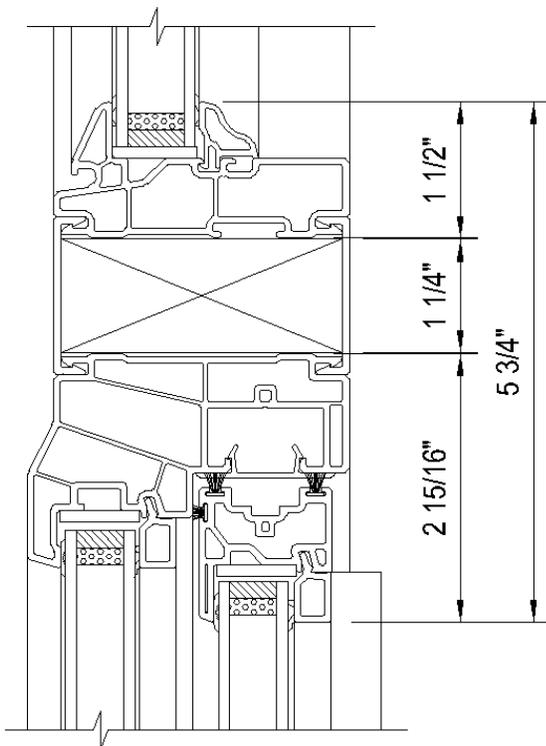
1374 3-Lite Single Slider (End Vent)
Window - Mullion Details



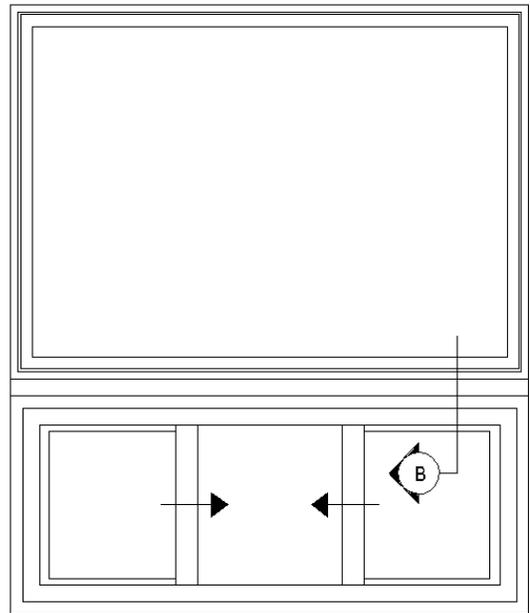
A - FIXED OVER 3-LITE SINGLE SLIDER LIFTOUT
MULLION DETAIL



ELEVATION
EXTERIOR VIEW

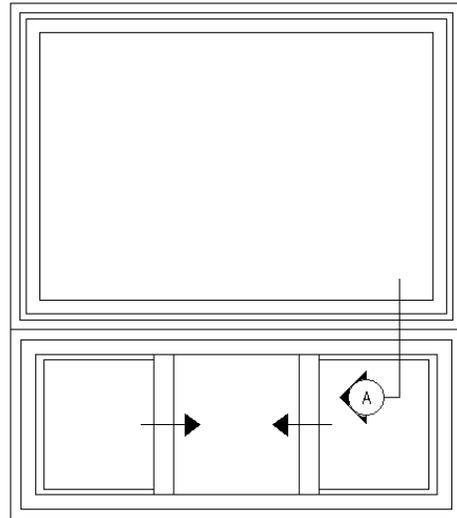
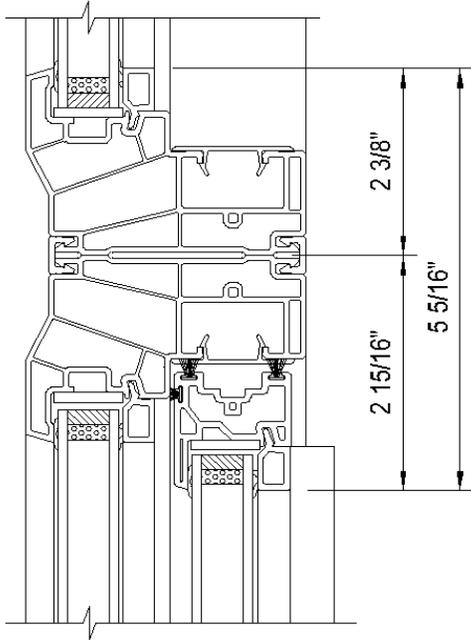


B - FIXED OVER 3-LITE SINGLE SLIDER LIFTOUT
MULLION REINFORCEMENT DETAIL



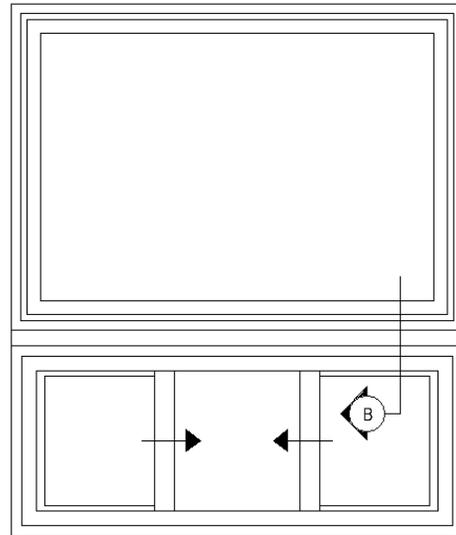
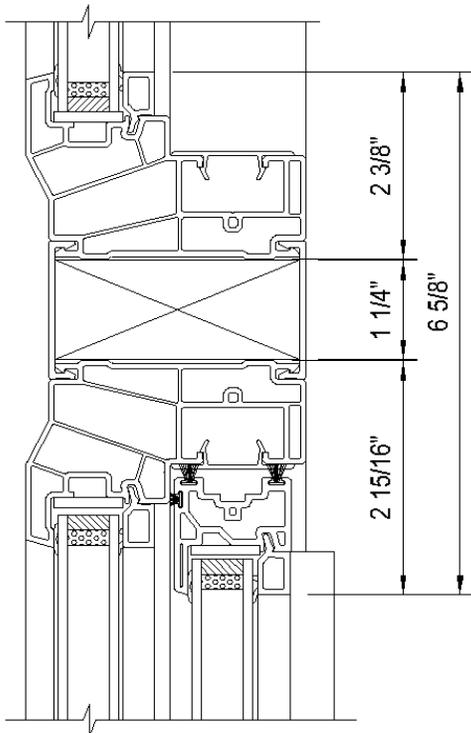
ELEVATION
EXTERIOR VIEW

1374 3-Lite Single Slider (End Vent)
Window - Mullion Details



ELEVATION
EXTERIOR VIEW

A - PICTURE (SINGLES FRAME) OVER 3-LITE SINGLE SLIDER LIFTOUT
MULLION DETAIL



ELEVATION
EXTERIOR VIEW

B - PICTURE (SINGLES FRAME) OVER 3-LITE SINGLE SLIDER LIFTOUT
MULLION REINFORCEMENT DETAIL

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4071 Picture Window

(No Sash)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

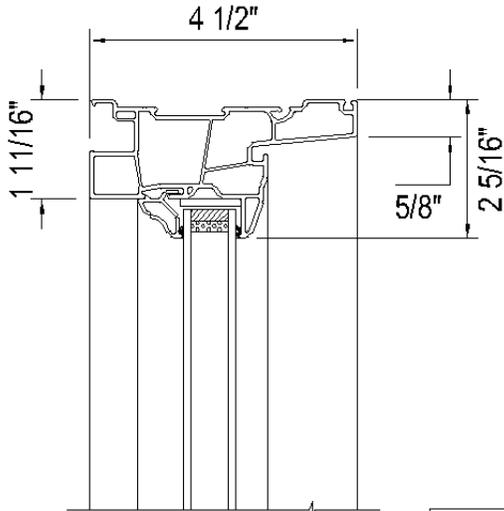
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

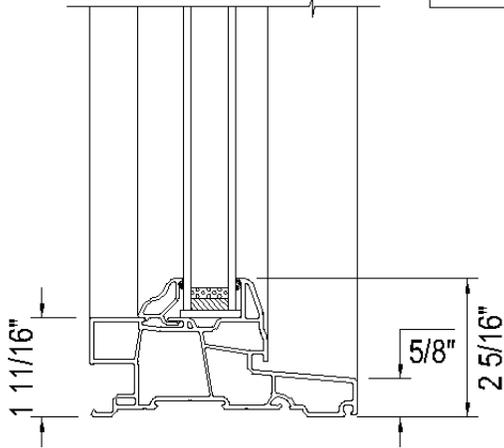
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

4071 Picture Window (No Sash) Details

HEAD DETAIL

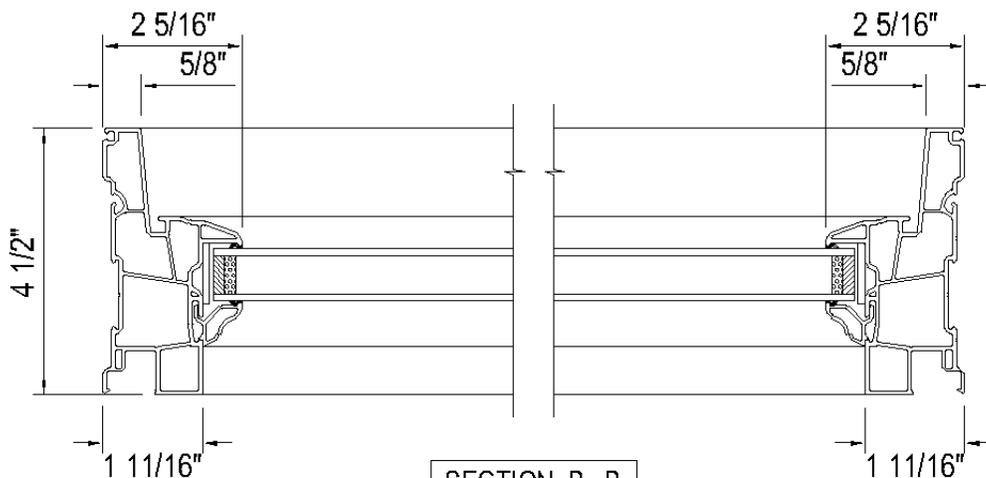
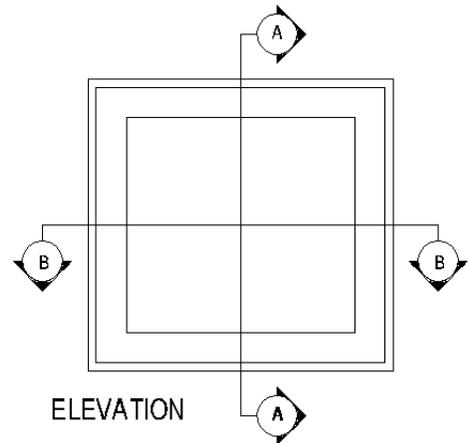


SECTION A - A



SILL DETAIL

CAN/CSA A440-00	
Air: Fixed	
Water: B7	
Structural: C5	
Forced Entry: N/A	
<hr/>	
DP Rating: CW-PG100-FW	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: Fixed	



SECTION B - B

JAMB DETAIL

JAMB DETAIL

4071

Architectural Shaped Window

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

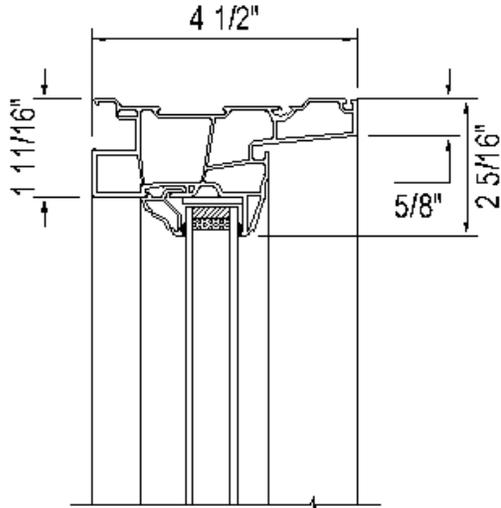
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

4071 Architectural Shaped Windows

HEAD DETAIL



CAN/CSA A440-00

Air: Fixed

Water: B7

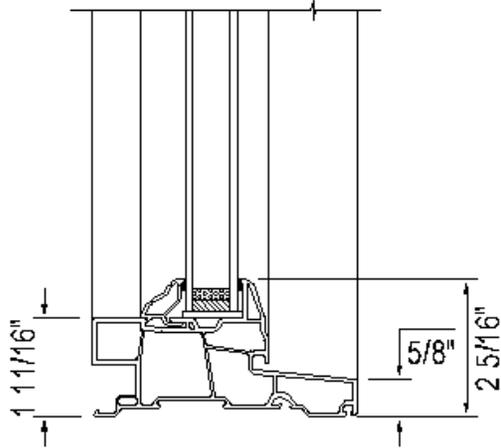
Structural: C5

Forced Entry: N/A

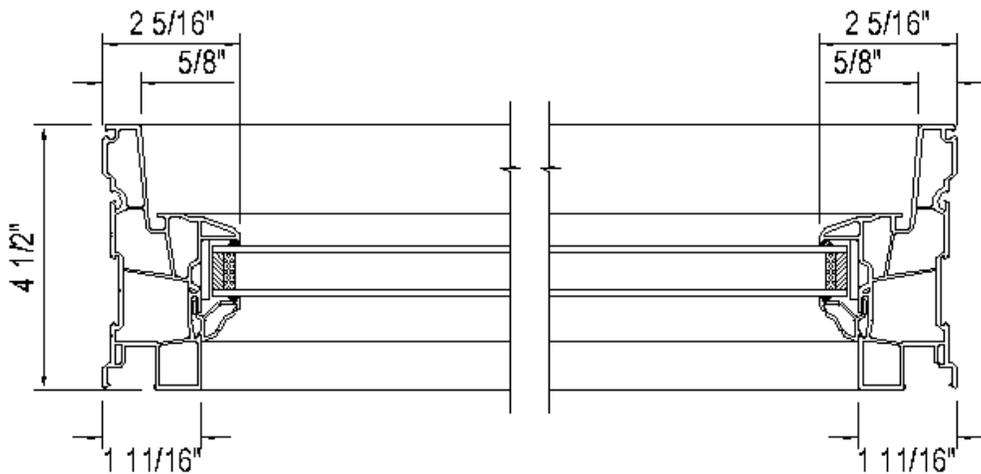
DP Rating: CW-PG100-FW

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: Fixed



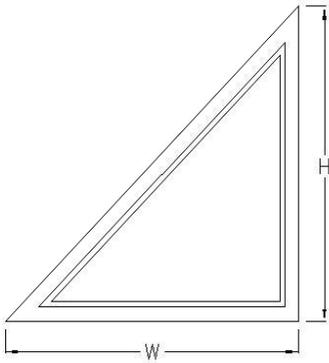
SILL DETAIL



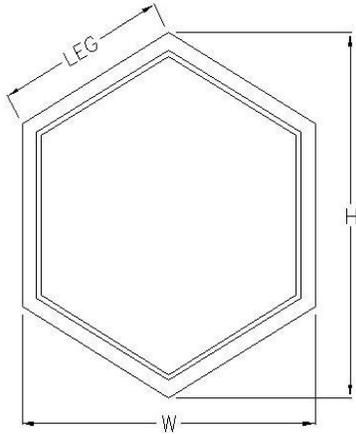
JAMB DETAIL

JAMB DETAIL

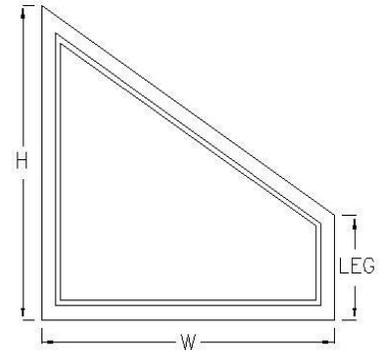
Non-Bent Geometric Shapes



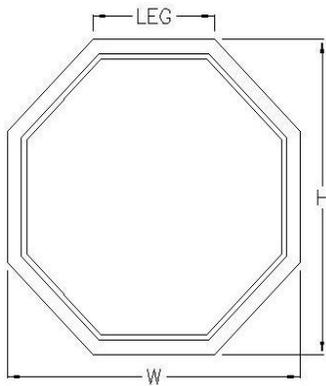
TRIANGLE
MODEL #4030



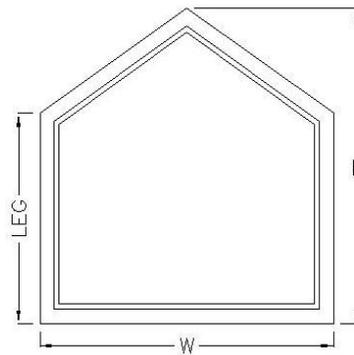
HEXAGON
MODEL #4031



TRAPEZOID
MODEL #4032

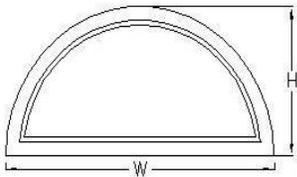


OCTAGON
MODEL #4033

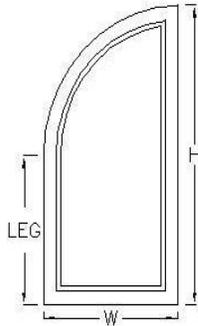


PENTAGON
MODEL #4034

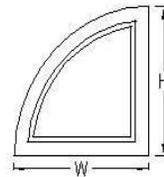
Bent Geometric Shapes



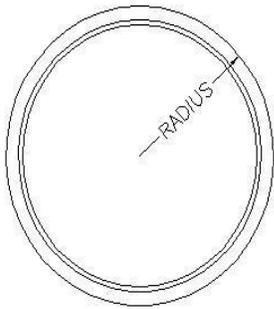
HALF ARCH
MODEL #4023



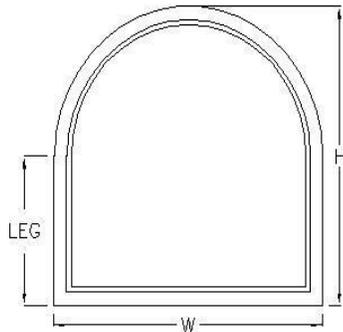
EXTENDED QUARTER ARCH
MODEL #4028B



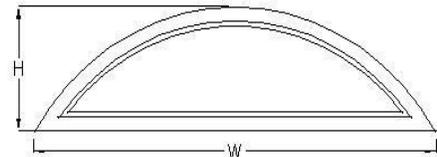
QUARTER ARCH
MODEL #4027



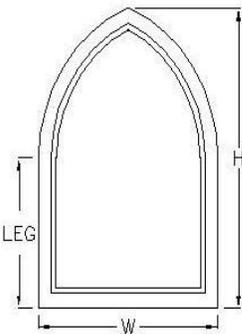
FULL CIRCLE
MODEL #4024



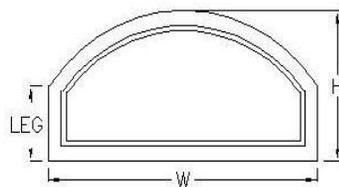
EXTENDED ARCH
MODEL #4028



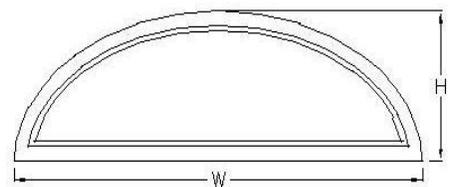
CORD/EYEBROW
MODEL #4025



CATHEDRAL
MODEL #4029



ELIPSE TOP
MODEL #4026



TRUE ELIPSE
MODEL #4037

4072 Picture Window (With Sash)

SPECIFICATIONS

Frame

Combined frame and sash profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior sash edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available on casement, awning, picture window and North Star Patio Doors. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

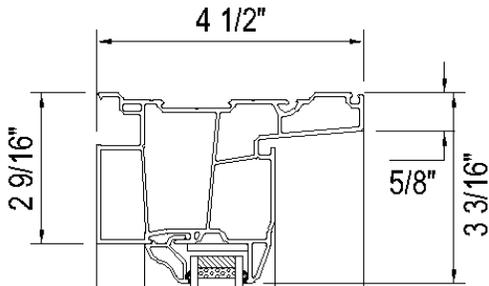
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

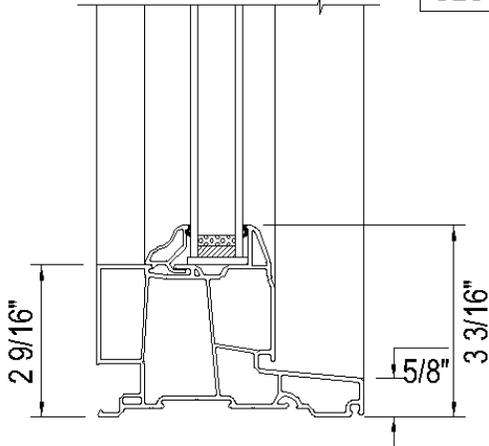
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

4072 Picture Window (With Sash) Details

HEAD DETAIL

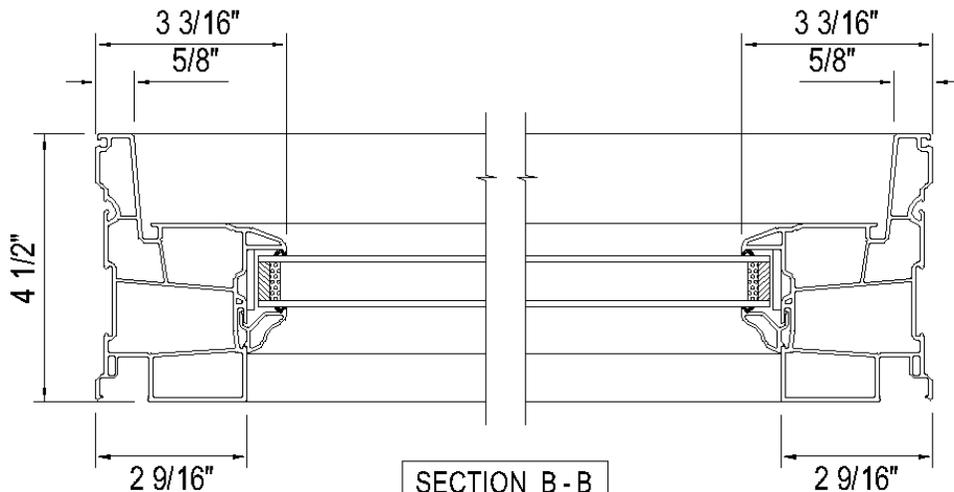
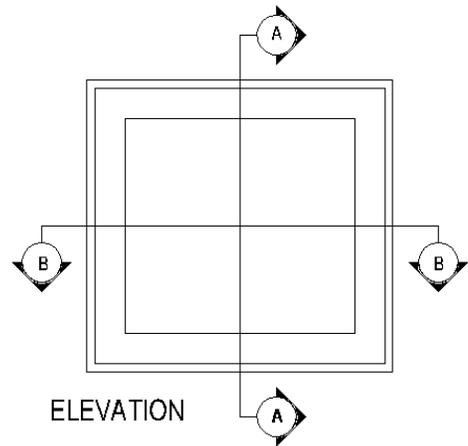


SECTION A-A



SILL DETAIL

CAN/CSA A440-00	
Air: Fixed	
Water: B7	
Structural: C5	
Forced Entry: N/A	
<hr/>	
DP Rating: CW-PG70-FW	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: Fixed	



SECTION B-B

JAMB DETAIL

JAMB DETAIL

4171 Casement Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Neoprene setting blocks are placed around glass in sash in diagonal pattern with silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible fin weather strip extruded to exterior edge of sash. Install architectural profiled interior glazing stops with soft flexible fin weather-strip against interior glass face.

Triple Weather-Stripping

Two flexible dual durometer bulb type compression gaskets are located around perimeter of window frame to ensure air and water tight seal and maximum energy efficiency. One water repellent pile weather-strip with stiff fin type vapor barrier is located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.

Hardware

Truth Maxim hardware has concealed hinges and heavy duty roto gear operator which allow sash to open to 90° for ease of cleaning. The roto gear operator will hold the sash at any position. Sash lock pulls weather-stripped sash against dual compression weather-strips on frame. Concealed multipoint sash locks are standard on units taller than 22" in height. All steel components have Truth E-Gard™ coating for superior corrosion protection. Snubber hardware on the frame and sash ensure compression of the bulb weather-strip opposite to the lock side.

Hardware Options

Standard Truth Maxim roto gear operator and sash locks are standard in white with contour handle. Truth Encore folding handle with roto gear nesting cover is available in white, faux bronze, brushed antique chrome, satin nickel and oil rubbed bronze finish.

Note: Limit sash opening hardware is available.

Screen

North Star Heavy Duty EZ-Screens are roll formed from heavy duty .025" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has spring loaded corner keys for easy removal and installation of screen. Standard screens are white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

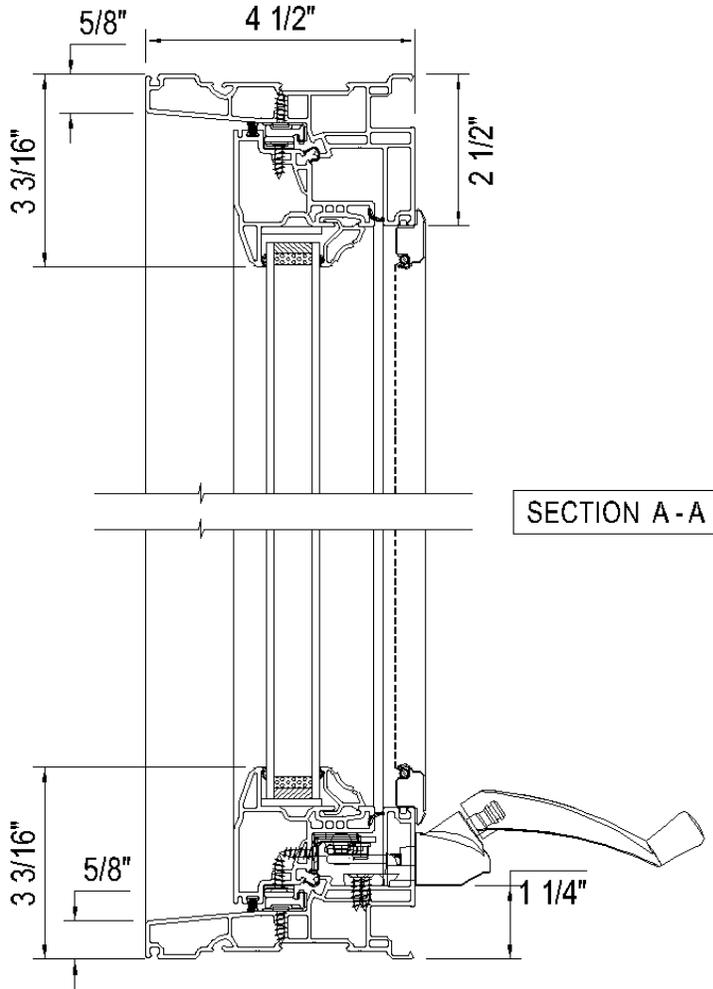
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for casement windows that enable narrow sizes to meet egress codes.

4171 Casement Window Details

HEAD DETAIL



SECTION A-A

CAN/CSA A440-00

Air: A3

Water: B7

Structural: C5

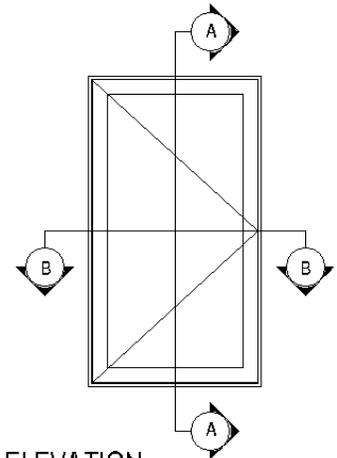
Screen: S1

Forced Entry: F20

DP Rating: R-PG100-C

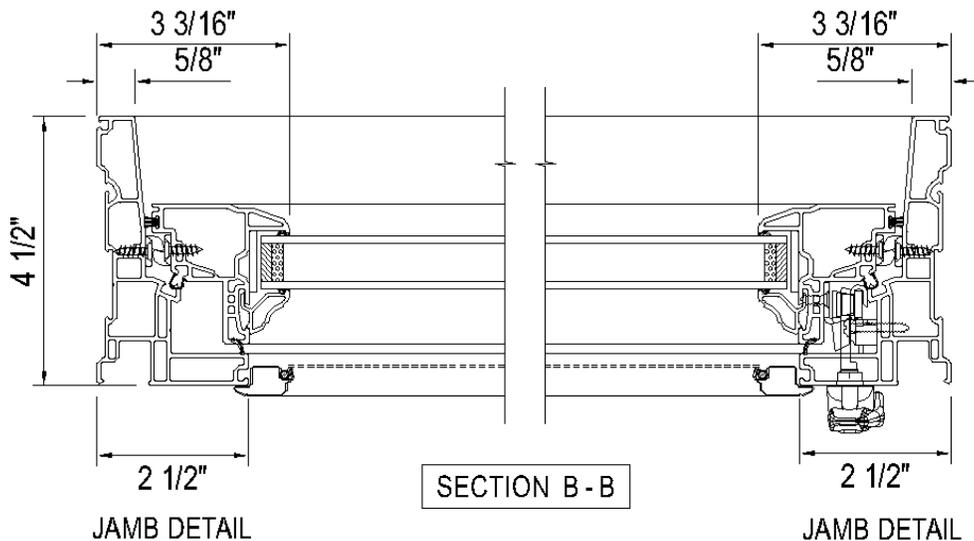
Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A3



ELEVATION
EXTERIOR VIEW - RIGHT
HAND HINGE

SILL DETAIL



SECTION B-B

JAMB DETAIL

JAMB DETAIL

4173 Awning Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Neoprene setting blocks are placed around glass in sash in diagonal pattern with silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible fin weather strip extruded to exterior edge of sash. Install architectural profiled interior glazing stops with soft flexible fin weather-strip against interior glass face.

Triple Weather-Stripping

Two flexible dual durometer bulb type compression gaskets are located around perimeter of window frame to ensure air and water tight seal and maximum energy efficiency. One water repellent pile weather-strip with stiff fin type vapor barrier is located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.

Hardware

Truth Maxim hardware has concealed scissor hinges and heavy duty roto gear operator. The roto gear operator will hold the sash at any position. Sash lock pulls weather-stripped sash against dual compression weather-strips on frame. Dual sash locks located on window jamb. All steel components have Truth E-Gard™ coating for superior corrosion protection. Snubber hardware on windows 42" wide and over is applied to the frame and sash at head of window to ensure compression of the bulb weather-strip opposite to sill hardware.

Hardware Options

Standard Truth Maxim roto gear operator and sash locks are standard in white with contour handle. Truth Encore folding handle with roto gear nesting cover is available in white, faux bronze, brushed antique chrome, satin nickel and oil rubbed bronze finish.

Screen

North Star Heavy Duty EZ-Screens are roll formed from heavy duty .025" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has spring loaded corner keys for easy removal and installation of screen. Standard screens are white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

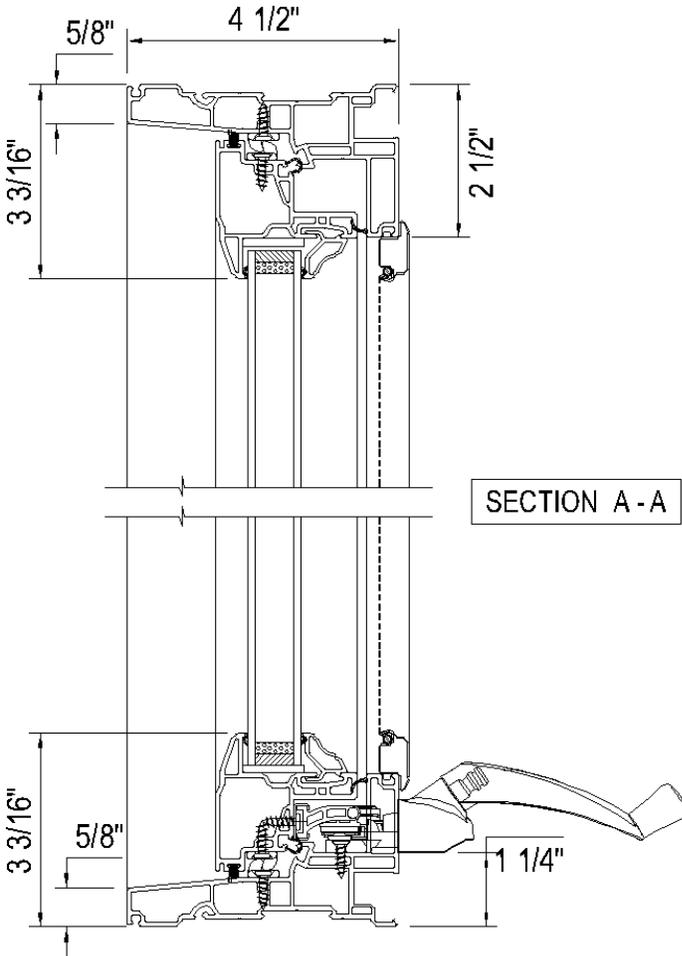
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

4173 Awning Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A3

Water: B7

Structural: C4

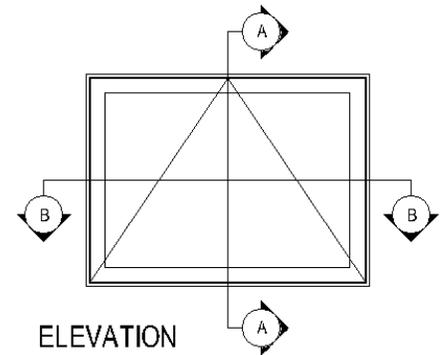
Screen: S1

Forced Entry: F20

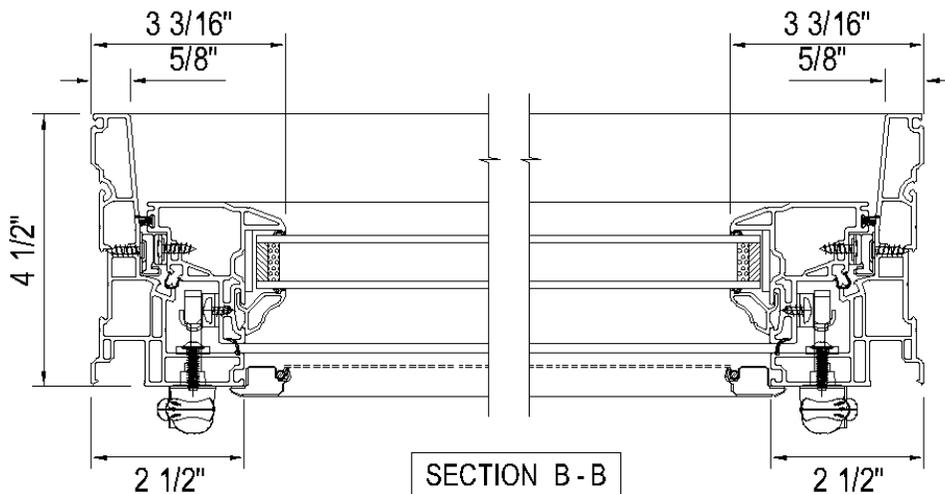
DP Rating: LC-PG65-AP

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A3



SILL DETAIL



JAMB DETAIL

JAMB DETAIL

4371 Single Hung Tilt Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 4 1/2" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Seven water repellent pile weather-strips with stiff fin type vapor barriers are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two additional pile weather-strips are incorporated for added weatherability. One weather-strip is located on the inside of the window frame at sill and one weather-strip on the fixed upper sash where lower and upper sash overlap. A bulb gasket is located on the bottom of the lower sash.

Hardware

Two die-cast self-latching cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 30" in width require one cam lock and keeper. Each sash is operated with two stainless steel constant force coil spring balance hardware. True recessed finger latches release lower sash to allow sash to tilt in for ease of cleaning. Full length sash pull handles are extruded into the interior glazing stop profile. Standard color is white.

Hardware Options

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star Single Hung 1/2 screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

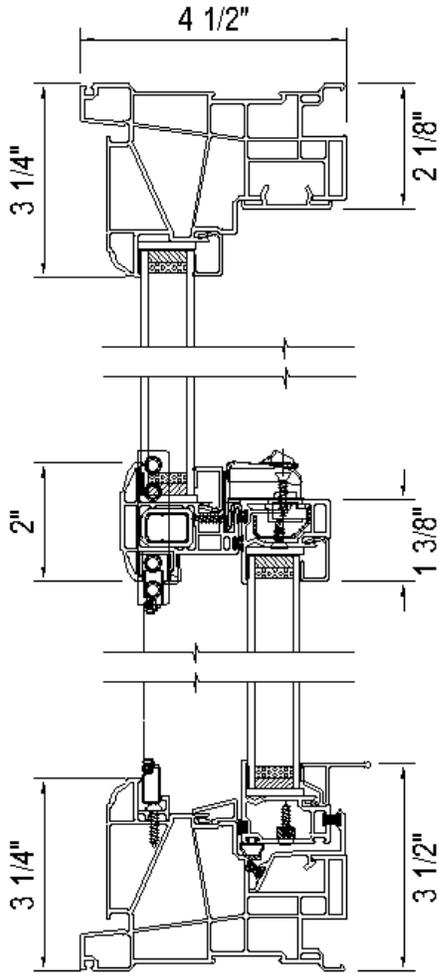
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single hung tilt windows that enable narrow sizes to meet egress codes.

4371 Single Hung Tilt Window Details

HEAD DETAIL



SECTION A - A

CAN/CSA A440-00

Air: A3/Fixed

Water: B7

Structural: C3

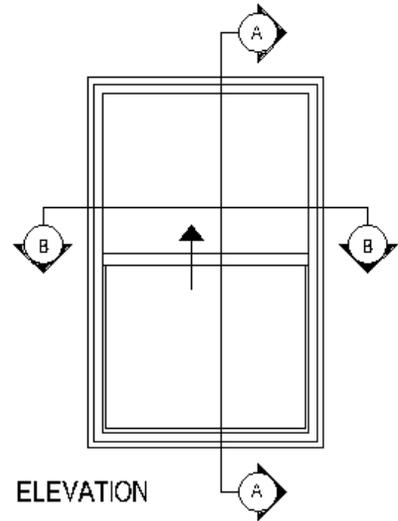
Screen: S1

Forced Entry: F20

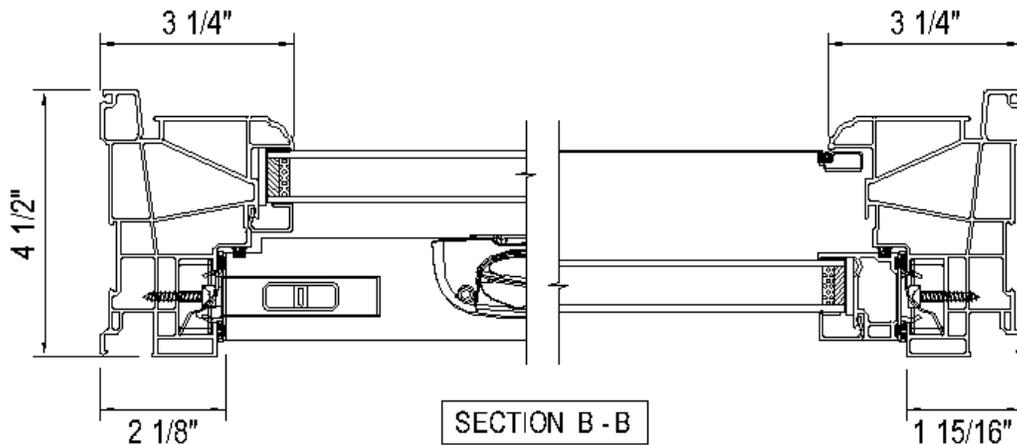
DP Rating: R-PG85-H

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A3



SILL DETAIL



SECTION B - B

JAMB DETAIL

JAMB DETAIL

4372 Single Slider Liftout Window

SPECIFICATIONS

Note: Single Slider 4372 has left side operating and right side fixed.

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Six water repellent pile weather-strips with stiff fin type vapor barriers are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two interior side water repellent pile weather-strips with stiff fin type vapor barrier are located on the inside of window frame at sill and jamb location; as well as a third weather strip on fixed sash checkrail for additional protection against air and water penetration.

Hardware

Two die-cast self-latching cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 30" in height require one cam lock and keeper. Sash release latches are secured to sash to allow tilt in and lift out of operating sash for ease of cleaning. Tandem brass rollers located on bottom of sash allow for smooth effortless opening and closing of sash. Full length sash pull handles are extruded into the interior glazing stop profile. Standard profile color is white.

Hardware Options

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

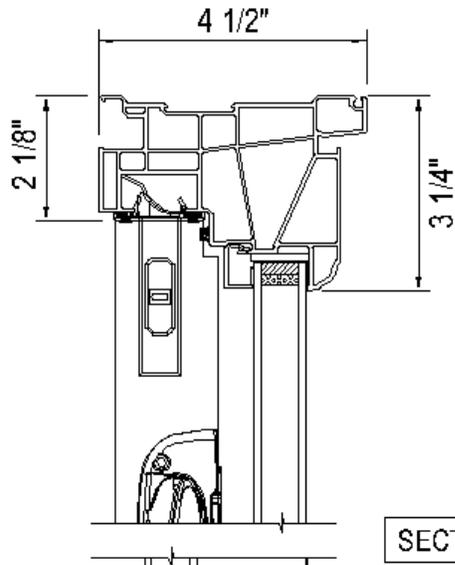
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single slider liftout windows that enable narrow sizes to meet egress codes.

4372 Single Slider Liftout Window Details

HEAD DETAIL



SECTION A - A

CAN/CSA A440-00

Air: A3/Fixed

Water: B4

Structural: C4

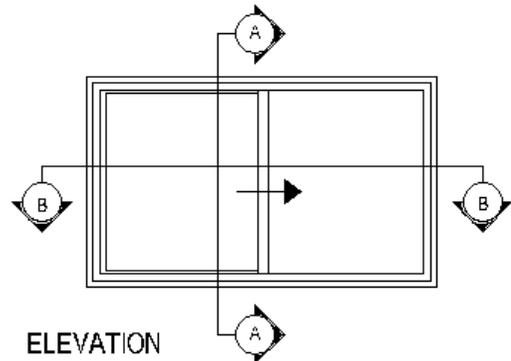
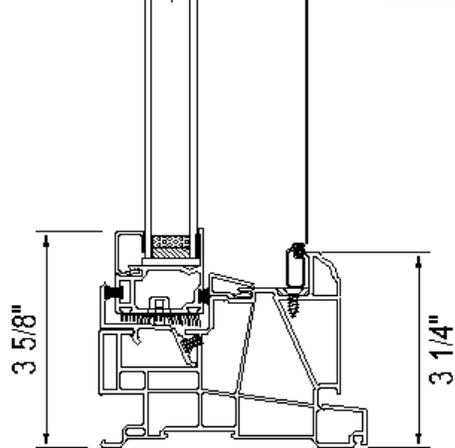
Screen: S1

Forced Entry: F20

DP Rating: R-PG60-HS

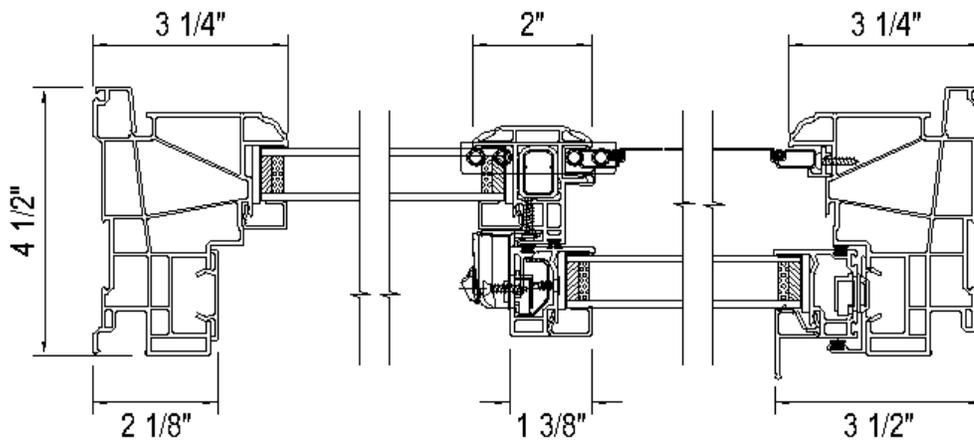
Water Resistance (psf): 620 (12.75)

Air Infiltration/Exfiltration: A3



ELEVATION

SILL DETAIL



JAMB DETAIL

SECTION B - B

JAMB DETAIL

4377 Picture Window (Singles Frame)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth.

Note: Profiles are designed to match sliding window profiles.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

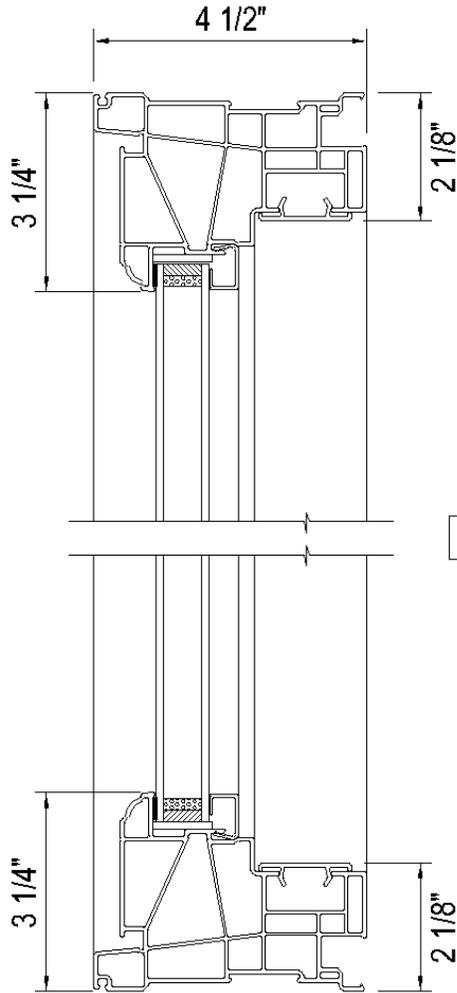
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

4377 Picture Window (Singles Frame) Details

HEAD DETAIL



SECTION A-A

CAN/CSA A440-00

Air: Fixed

Water: B7

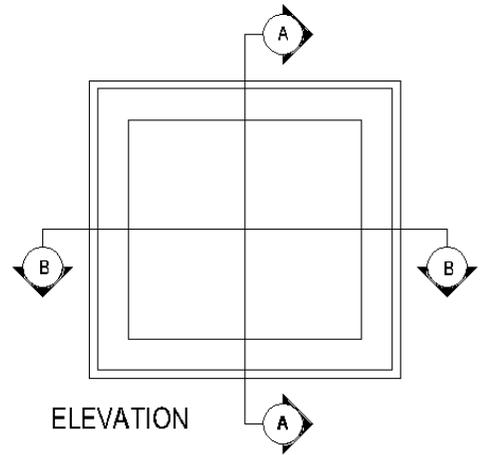
Structural: C3

Forced Entry: N/A

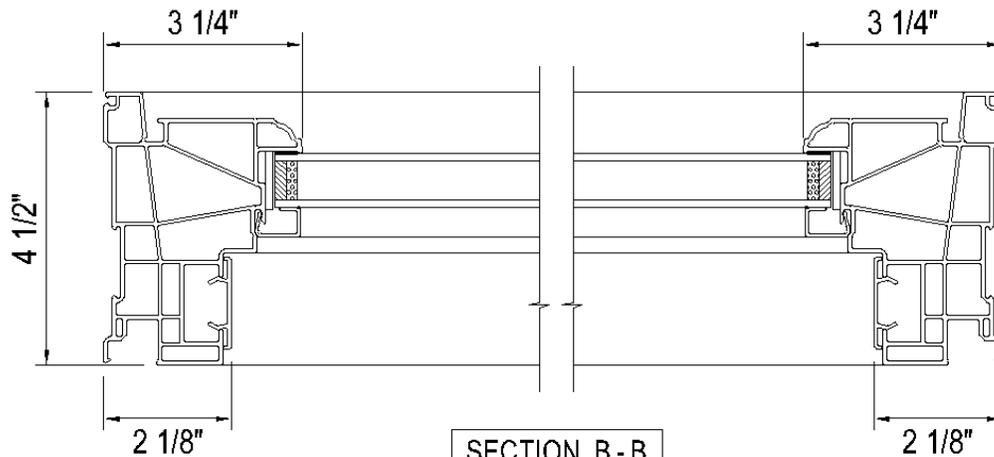
DP Rating: CW-PG45-FW

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: Fixed



SILL DETAIL



SECTION B-B

JAMB DETAIL

JAMB DETAIL

Maximum and Minimum Sizes

SIZE LIMITATIONS (4000 SERIES)			
Window Type		Minimum Overall Size	Maximum One Way
4071 Picture (No Sash)	Double Glazed	10" x 10"	132" or 30 sq. ft. *
	Triple Glazed	N/A	130" or 22 sq. ft.
4072 Picture (With Sash)	Double Glazed	12" x 12"	132" or 40 sq. ft. *
	Triple Glazed	N/A	130" or 30 sq. ft.
4171 Casement	Double Glazed	15-3/4" x 17"	Max. 108 U.I (width plus height) Width cannot be greater than 36" Height cannot be greater than 78"
	Triple Glazed	15-3/4" x 17"	Max. 98 U.I (width plus height) Width cannot be greater than 36" Height cannot be greater than 78"
4173 Awning	Double Glazed	21" x 15-3/4"	Max. 108 U.I (width plus height) Width cannot be greater than 60" Height cannot be greater than 48"
	Triple Glazed	21" x 15-3/4"	Max. 96 U.I (width plus height) Width cannot be greater than 60" Height cannot be greater than 48"
4371 Single Hung Tilt	Double Glazed	13" x 21"	Max. 120 U.I (width plus height) Width cannot be greater than 48" Height cannot be greater than 78"
	Triple Glazed	13" x 21"	Max. 104 U.I (width plus height) Width cannot be greater than 42" Height cannot be greater than 78"
4372 Single Slider Lifout	Double Glazed	22" x 13"	Max. 132 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 60"
	Triple Glazed	22" x 13"	Max. 114 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 54"
4377 Picture (Singles Frame)	Double Glazed	13" x 13"	132" or 40 sq. ft. *
	Triple Glazed	N/A	30 sq. ft.

***Some glass options will have other size restrictions**

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4071 Hybrid Picture Window (No Sash)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

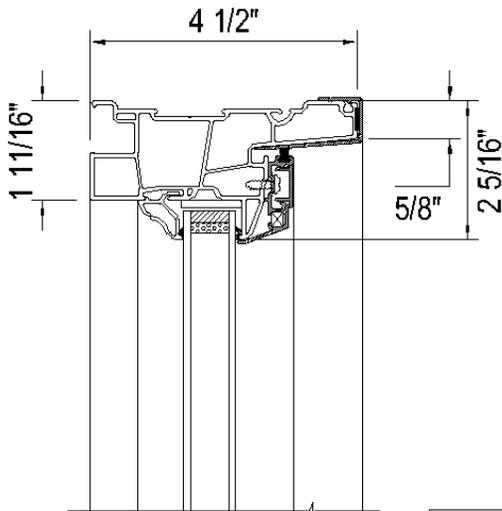
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

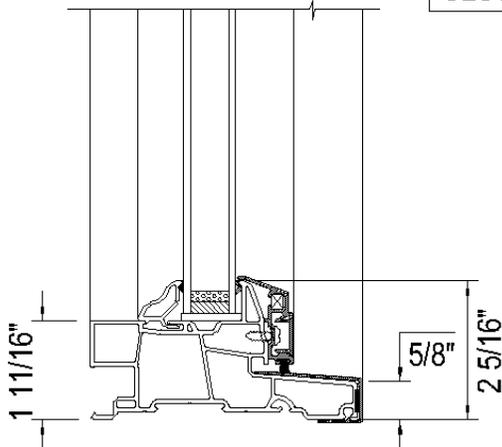
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

4071 Hybrid Picture Window (No Sash) Details

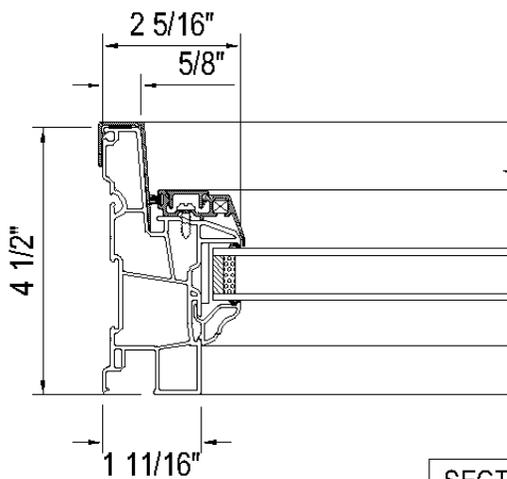
HEAD DETAIL



SECTION A - A

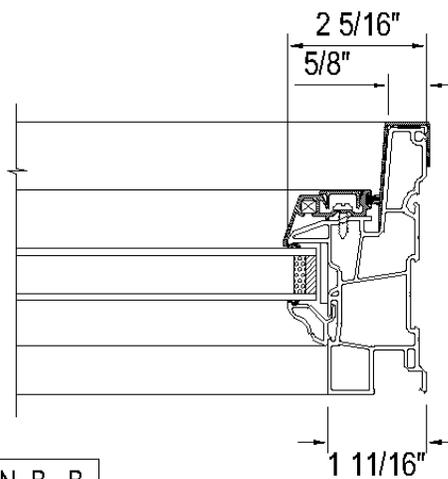


SILL DETAIL



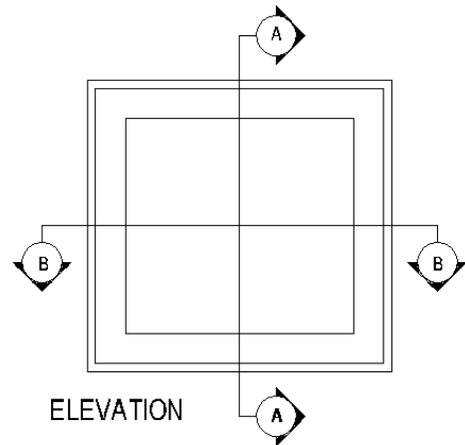
JAMB DETAIL

SECTION B - B

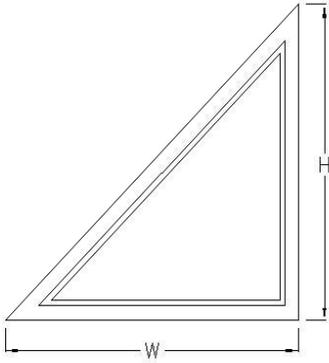


JAMB DETAIL

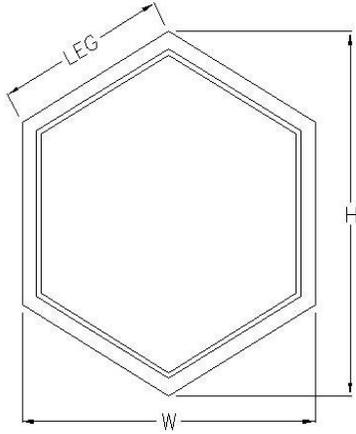
CAN/CSA A440-00	
Air: Fixed	
Water: B7	
Structural: C5	
Forced Entry: N/A	
<hr/>	
DP Rating: CW-PG100-FW	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: Fixed	



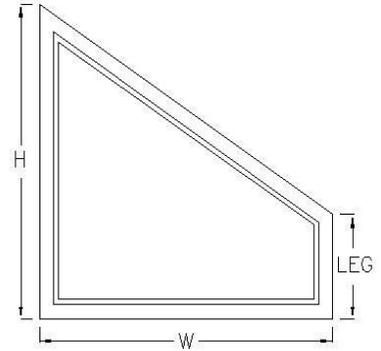
Non-Bent Geometric Shapes



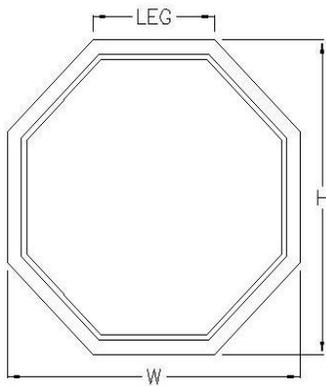
TRIANGLE



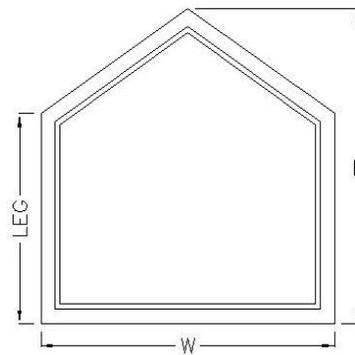
HEXAGON



TRAPEZOID

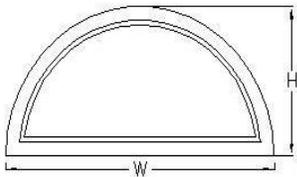


OCTAGON

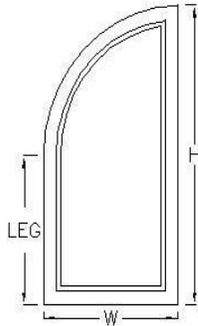


PENTAGON

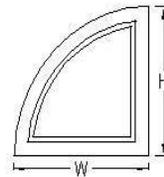
Bent Geometric Shapes



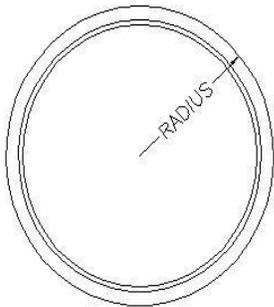
HALF ARCH



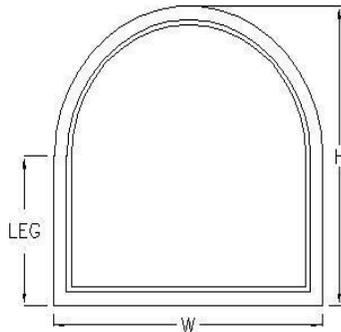
EXTENDED QUARTER ARCH



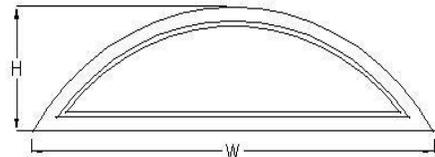
QUARTER ARCH



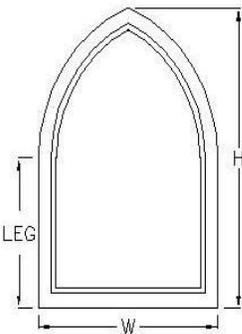
FULL CIRCLE



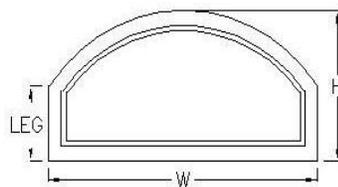
EXTENDED ARCH



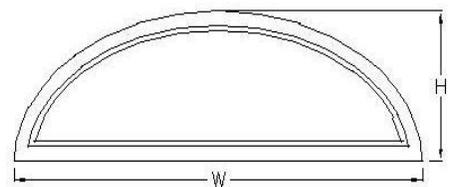
CORD/EYEBROW



CATHEDRAL



ELIPSE TOP



TRUE ELIPSE

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4072 Hybrid Picture Window (With Sash)

SPECIFICATIONS

Frame

Combined frame and sash profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior sash edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available on casement, awning, picture window and North Star Patio Doors. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

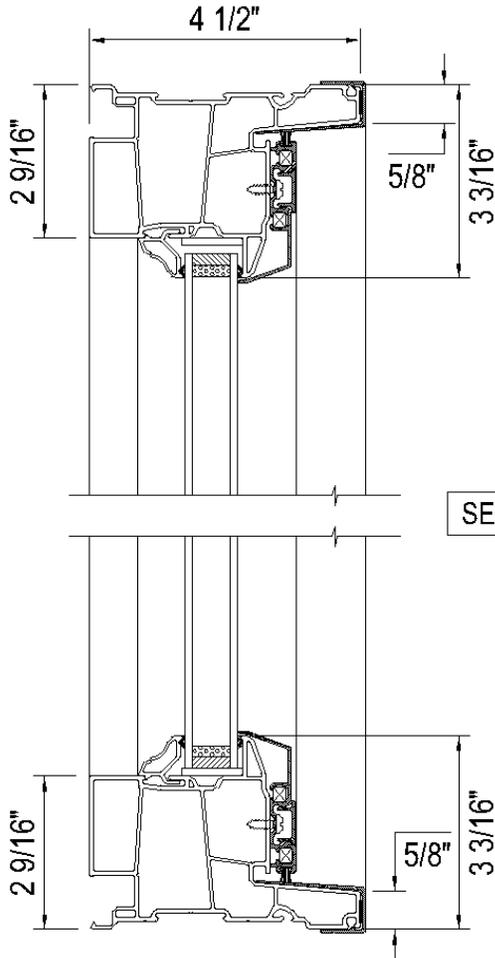
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

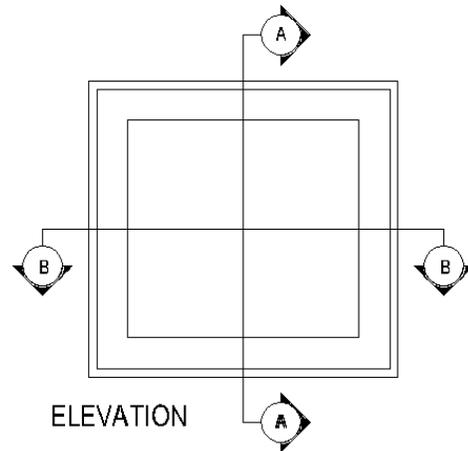
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

4072 Hybrid Picture Window (With Sash) Details

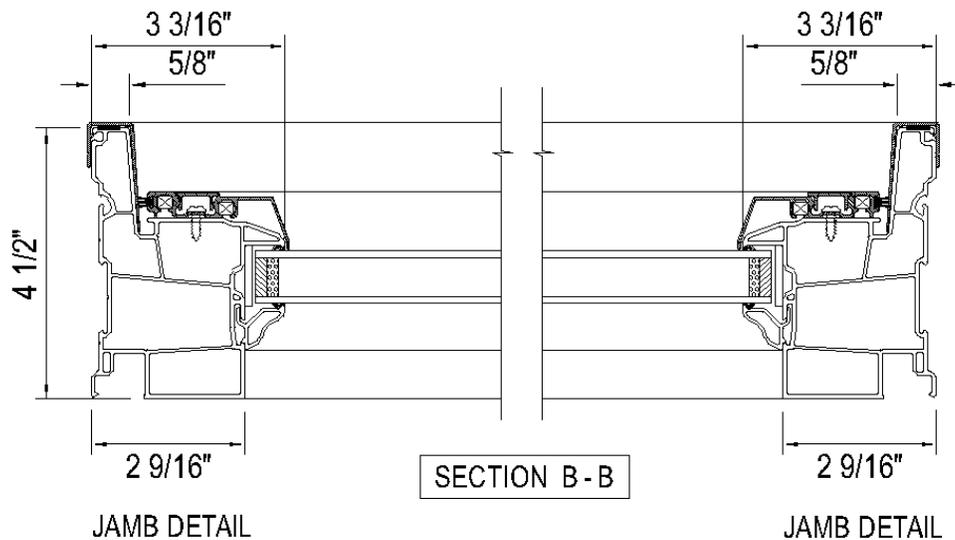
HEAD DETAIL



CAN/CSA A440-00	
Air: Fixed	
Water: B7	
Structural: C5	
Forced Entry: N/A	
<hr/>	
DP Rating: CW-PG70-FW	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: Fixed	



SILL DETAIL



JAMB DETAIL

JAMB DETAIL

4171 Hybrid Casement Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Neoprene setting blocks are placed around glass in sash in diagonal pattern with silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible fin weather strip extruded to exterior edge of sash. Install architectural profiled interior glazing stops with soft flexible fin weather-strip against interior glass face.

Triple Weather-Stripping

Two flexible dual durometer bulb type compression gaskets are located around perimeter of window frame to ensure air and water tight seal and maximum energy efficiency. One water repellent pile weather-strip with stiff fin type vapor barrier is located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.

Hardware

Truth Maxim hardware has concealed hinges and heavy duty roto gear operator which allow sash to open to 90° for ease of cleaning. The roto gear operator will hold the sash at any position. Sash lock pulls weather-stripped sash against dual compression weather-strips on frame. Concealed multipoint sash locks are standard on units taller than 22" in height. All steel components have Truth E-Gard™ coating for superior corrosion protection. Snubber hardware on the frame and sash ensure compression of the bulb weather-strip opposite to the lock side.

Hardware Options

Standard Truth Maxim roto gear operator and sash locks are standard in white with contour handle. Truth Encore folding handle with roto gear nesting cover is available in white, faux bronze, brushed antique chrome, satin nickel and oil rubbed bronze finish.

Note: Limit sash opening hardware is available.

Screen

North Star Heavy Duty EZ-Screens are roll formed from heavy duty .025" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has spring loaded corner keys for easy removal and installation of screen. Standard screens are white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

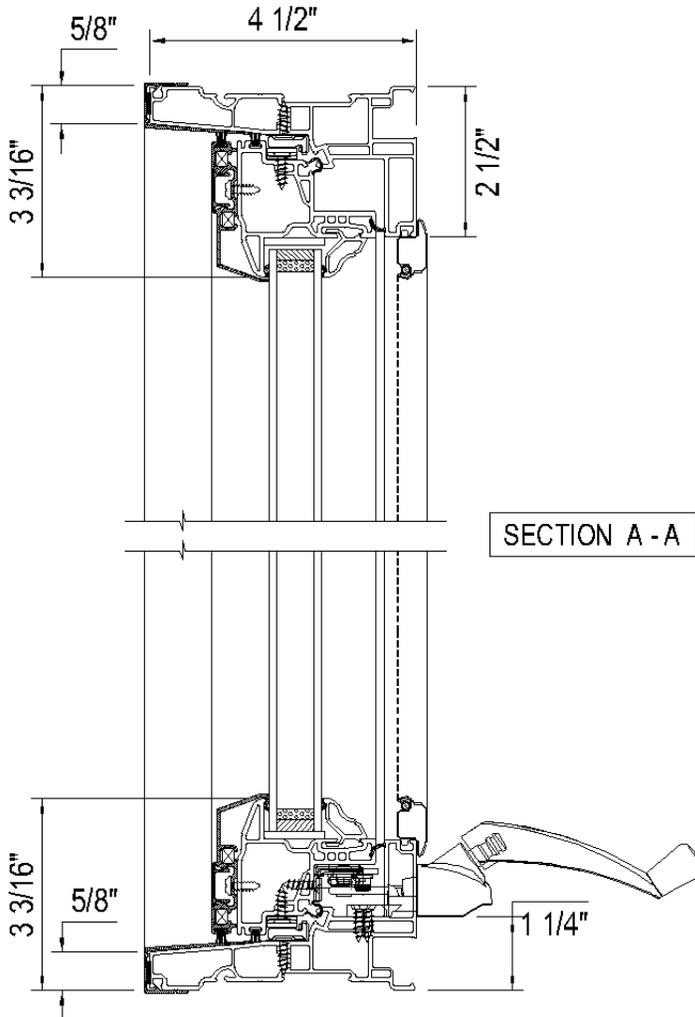
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for casement windows that enable narrow sizes to meet egress codes.

4171 Hybrid Casement Window Details

HEAD DETAIL



SECTION A - A

CAN/CSA A440-00

Air: A3

Water: B7

Structural: C5

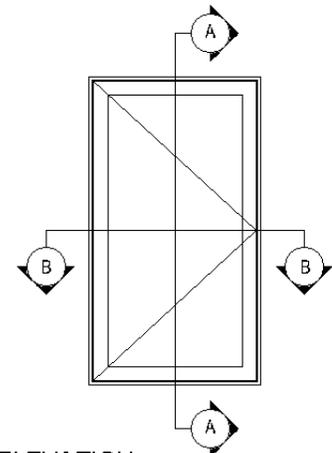
Screen: S1

Forced Entry: F20

DP Rating: R-PG100-C

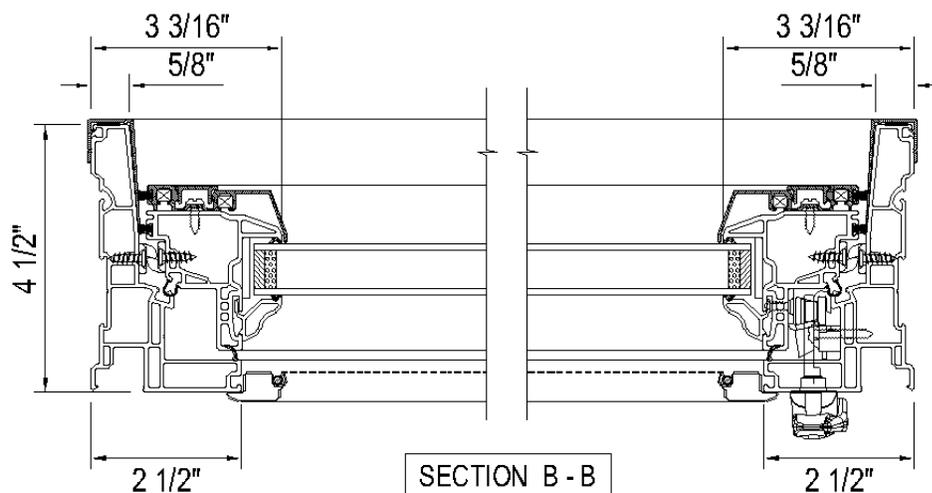
Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A3



ELEVATION
EXTERIOR VIEW - RIGHT
HAND HINGE

SILL DETAIL



SECTION B - B

JAMB DETAIL

JAMB DETAIL

4173 Hybrid Awning Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Neoprene setting blocks are placed around glass in sash in diagonal pattern with silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible fin weather strip extruded to exterior edge of sash. Install architectural profiled interior glazing stops with soft flexible fin weather-strip against interior glass face.

Triple Weather-Stripping

Two flexible dual durometer bulb type compression gaskets are located around perimeter of window frame to ensure air and water tight seal and maximum energy efficiency. One water repellent pile weather-strip with stiff fin type vapor barrier is located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.

Hardware

Truth Maxim hardware has concealed scissor hinges and heavy duty roto gear operator. The roto gear operator will hold the sash at any position. Sash lock pulls weather-stripped sash against dual compression weather-strips on frame. Dual sash locks located on window jamb. All steel components have Truth E-Gard™ coating for superior corrosion protection. Snubber hardware on windows 42" wide and over is applied to the frame and sash at head of window to ensure compression of the bulb weather-strip opposite to sill hardware.

Hardware Options

Standard Truth Maxim roto gear operator and sash locks are standard in white with contour handle. Truth Encore folding handle with roto gear nesting cover is available in white, faux bronze, brushed antique chrome, satin nickel and oil rubbed bronze finish.

Screen

North Star Heavy Duty EZ-Screens are roll formed from heavy duty .025" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has spring loaded corner keys for easy removal and installation of screen. Standard screens are white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

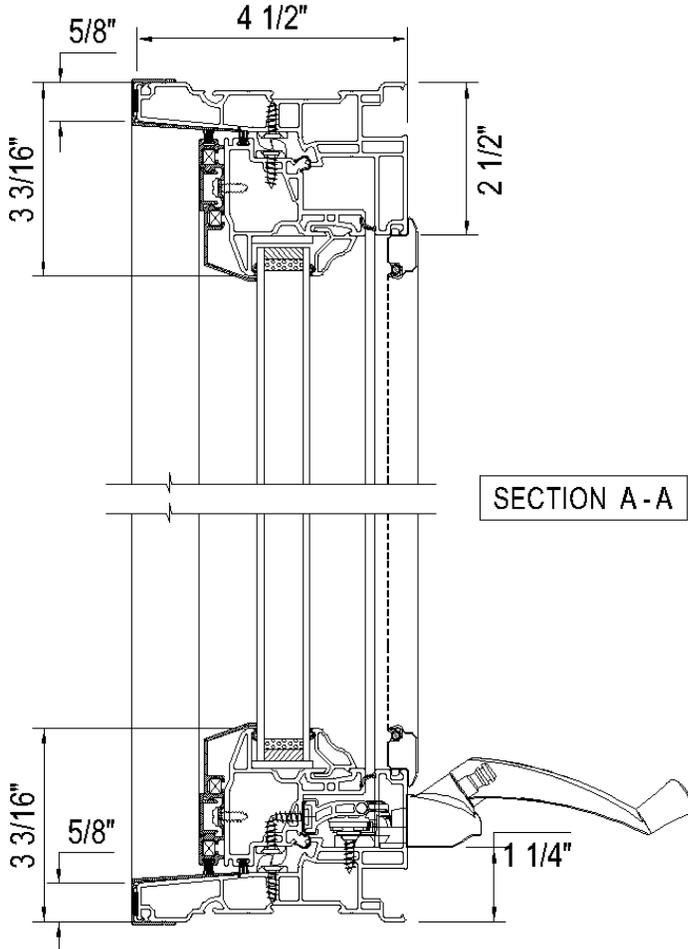
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

4173 Hybrid Awning Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A3

Water: B7

Structural: C4

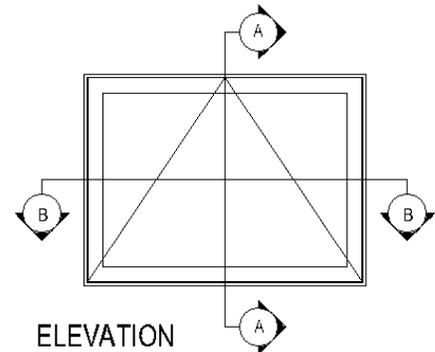
Screen: S1

Forced Entry: F20

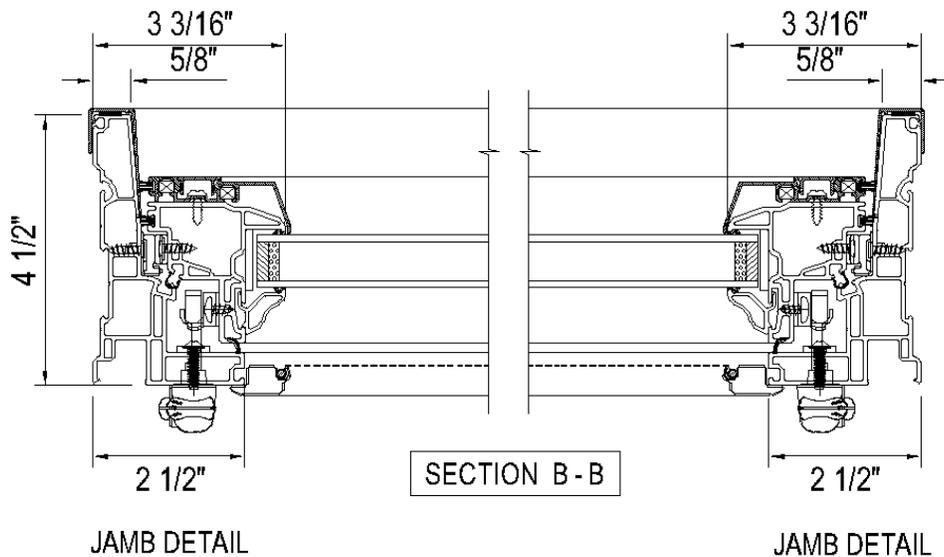
DP Rating: LC-PG65-AP

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A3



SILL DETAIL



4371 Hybrid Single Hung Tilt Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 4 1/2" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Seven water repellant pile weather-strips with stiff fin type vapor barriers are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two additional pile weather-strips are incorporated for added weatherability. One weather-strip is located on the inside of the window frame at sill and one weather-strip on the fixed upper sash where lower and upper sash overlap. A bulb gasket is located on the bottom of the lower sash.

Hardware

Two die-cast self-latching cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 30" in width require one cam lock and keeper. Each sash is operated with two stainless steel constant force coil spring balance hardware. True recessed finger latches release lower sash to allow sash to tilt in for ease of cleaning. Full length sash pull handles are extruded into the interior glazing stop profile. Standard color is white.

Hardware Options

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star Single Hung 1/2 screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

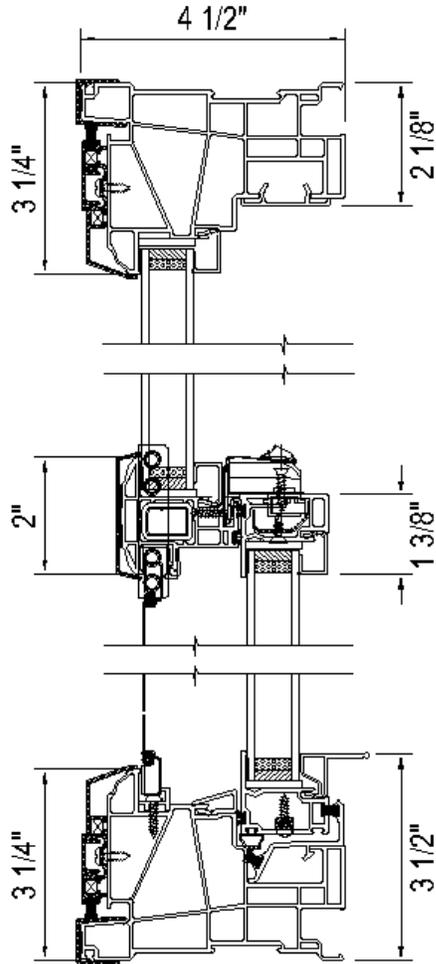
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single hung tilt windows that enable narrow sizes to meet egress codes.

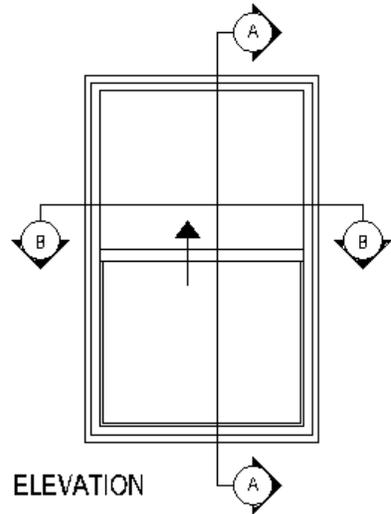
4371 Hybrid Single Hung Tilt Window Details

HEAD DETAIL

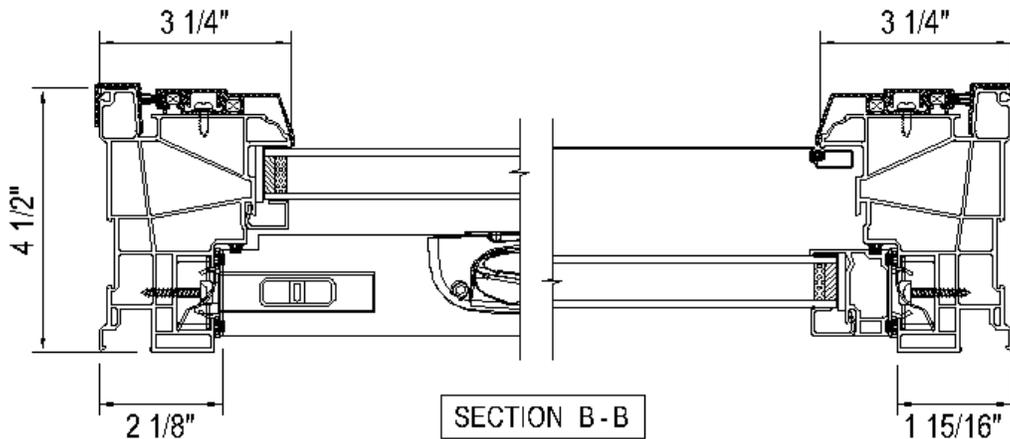


SECTION A-A

CAN/CSA A440-00	
Air: A3/Fixed	
Water: B7	
Structural: C3	
Screen: S1	
Forced Entry: F20	
<hr/>	
DP Rating: R-PG85-H	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: A3	



SILL DETAIL



SECTION B-B

JAMB DETAIL

JAMB DETAIL

4372 Hybrid Single Slider Liftout Window

SPECIFICATIONS

Note: Single Slider 4372 has left side operating and right side fixed.

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Six water repellant pile weather-strips with stiff fin type vapor barriers are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two interior side water repellant pile weather-strips with stiff fin type vapor barrier are located on the inside of window frame at sill and jamb location; as well as a third weather strip on fixed sash checkrail for additional protection against air and water penetration.

Hardware

Two die-cast self-latching cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 30" in height require one cam lock and keeper. Sash release latches are secured to sash to allow tilt in and lift out of operating sash for ease of cleaning. Tandem brass rollers located on bottom of sash allow for smooth effortless opening and closing of sash. Full length sash pull handles are extruded into the interior glazing stop profile. Standard profile color is white.

Hardware Options

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

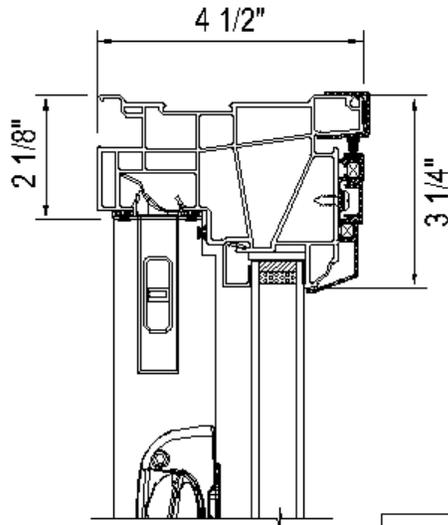
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

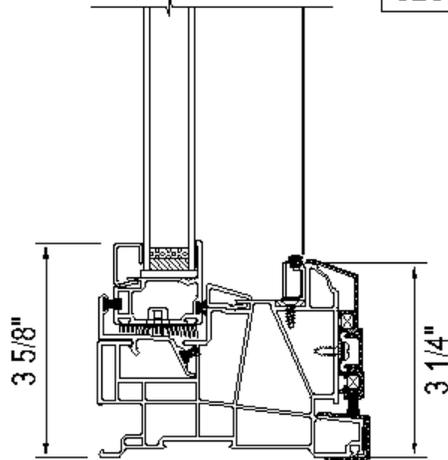
Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single slider liftout windows that enable narrow sizes to meet egress codes.

4372 Hybrid Single Slider Liftout Window Details

HEAD DETAIL

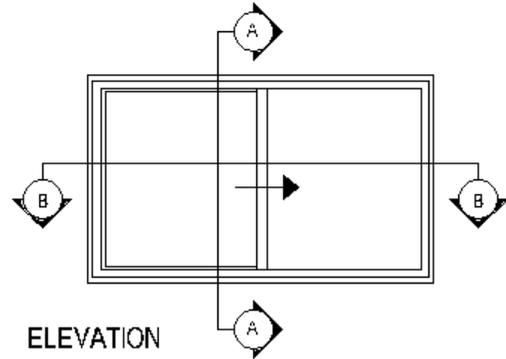


SECTION A-A

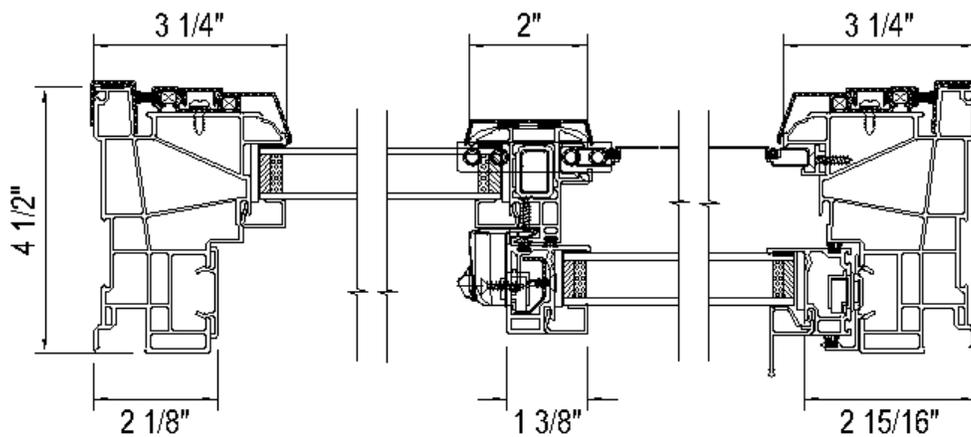


CAN/CSA A440-00
Air: A3/Fixed
Water: B4
Structural: C4
Screen: S1
Forced Entry: F20

DP Rating: R-PG60-HS
Water Resistance (psf): 620 (12.75)
Air Infiltration/Exfiltration: A3



SILL DETAIL



JAMB DETAIL

SECTION B-B

JAMB DETAIL

4377 Hybrid Picture Window (Singles Frame)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 4 ½" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Note: Profiles are designed to match sliding window profiles.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

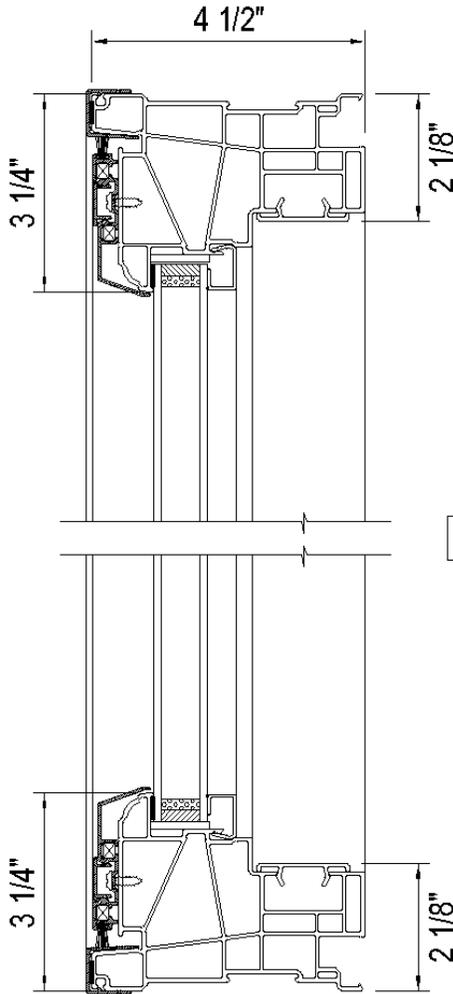
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

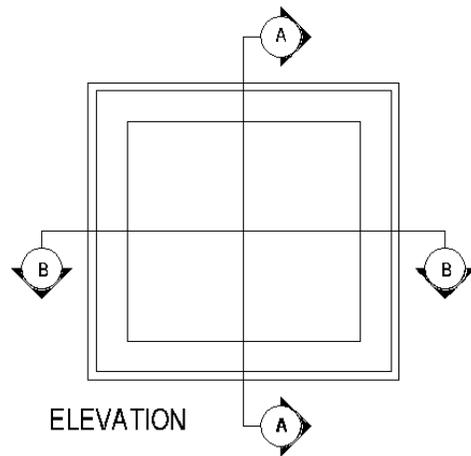
4377 Hybrid Picture Window (Singles Frame) Details

HEAD DETAIL

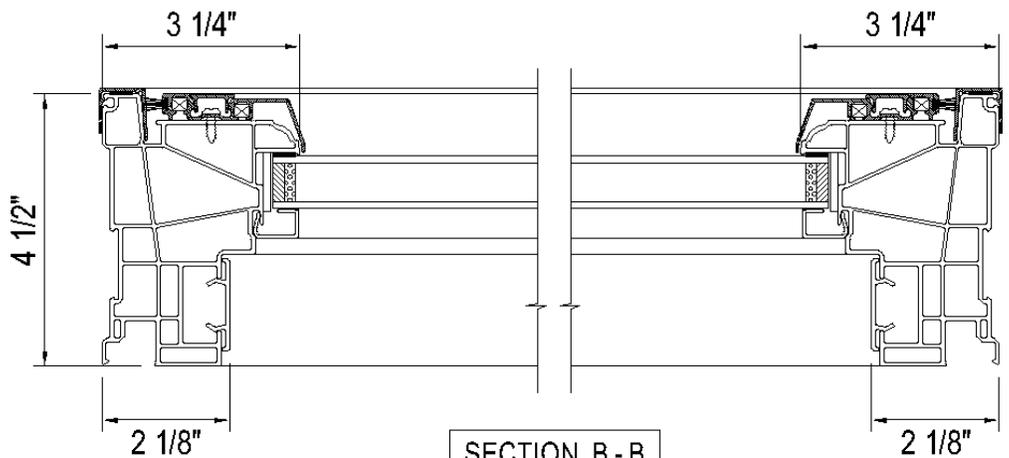


SECTION A - A

CAN/CSA A440-00	
Air: Fixed	
Water: B7	
Structural: C3	
Forced Entry: N/A	
<hr/>	
DP Rating: CW-PG45-FW	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: Fixed	



SILL DETAIL



SECTION B - B

JAMB DETAIL

JAMB DETAIL

Maximum and Minimum Sizes

SIZE LIMITATIONS (4000 HYBRID SERIES)			
Window Type		Minimum Overall Size	Maximum One Way
4071 Hybrid Picture (No Sash)	Double Glazed	10" x 10"	132" or 40 sq. ft. *
	Triple Glazed	N/A	130" or 30 sq. ft.
4072 Hybrid Picture (With Sash)	Double Glazed	12" x 12"	132" or 40 sq. ft. *
	Triple Glazed	N/A	130" or 30 sq. ft.
4171 Hybrid Casement	Double Glazed	15-3/4" x 17"	Max. 108 U.I (width plus height) Width cannot be greater than 36" Height cannot be greater than 78"
	Triple Glazed	15-3/4" x 17"	Max. 98 U.I (width plus height) Width cannot be greater than 36" Height cannot be greater than 78"
4173 Hybrid Awning	Double Glazed	21" x 15-3/4"	Max. 108 U.I (width plus height) Width cannot be greater than 60" Height cannot be greater than 48"
	Triple Glazed	21" x 15-3/4"	Max. 96 U.I (width plus height) Width cannot be greater than 60" Height cannot be greater than 48"
4371 Hybrid Single Hung Tilt	Double Glazed	13" x 21"	Max. 120 U.I (width plus height) Width cannot be greater than 48" Height cannot be greater than 78"
	Triple Glazed	13" x 21"	Max. 104 U.I (width plus height) Width cannot be greater than 42" Height cannot be greater than 78"
4372 Hybrid Single Slider Lifout	Double Glazed	22" x 13"	Max. 132 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 60"
	Triple Glazed	22" x 13"	Max. 114 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 54"
4377 Hybrid Picture (Singles Frame)	Double Glazed	13" x 13"	132" or 40 sq. ft. *
	Triple Glazed	N/A	30 sq. ft.

***Some glass options will have other size restrictions**

North Star Egress Windows – CANADA – 4000 Series

STYLE #4171 – CASEMENT (STANDARD HARDWARE)				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq.ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
25 5/8"	21 5/8"	25 5/8" x 41 3/4"	- 10 5/8"	- 5 1/4"
STYLE #4171 – CASEMENT (*EGRESS HARDWARE)				
23"	20 1/4"	23" x 41 3/4"	- 8"	- 5 1/4"

STYLE #4371 – SINGLE HUNG TILT				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq.ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
22"	48"	34" x 58 5/8"	- 7"	(x.5) - 9"

STYLE #4372 – SINGLE SLIDER LIFTOUT				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq.ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
42 1/2"	22"	53 1/8" x 34"	(x.5) - 6 1/4"	- 7"

Please Note:

Opening sizes shown are based on standard manufacturing allowance opening of the sashes.
 Vertical and horizontal sliding windows may be altered by trimming the vinyl sash stops to meet minimum openings or square footage requirements. Consult your North Star Representative.
 All operators which slide are calculated with 50/50 split.
 Opening sizes decrease when CMR is off-centered.
 When calculating sizes other than the examples shown, use the formula to determine the size of the opening. Windows cannot be smaller than the minimum widths and heights shown.
 e.g. – Casement window 28(w) x 40(h)
 $28(w) - 9 \frac{13}{16} = 18 \frac{3}{16}$ $40(h) - 4 \frac{3}{4} = 35 \frac{1}{4}$ with standard hardware
 $18 \frac{3}{16} \times 35 \frac{1}{4} / 144 = 4.45$ sq. ft. opening



North Star Egress Windows – UNITED STATES – 4000 Series

STYLE #4171 – CASEMENT (STANDARD HARDWARE)					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq.ft. opening)	2 nd Floor (5.7 sq.ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
30 5/8"	29 1/4"	28" x 47"	29 5/8" x 48 1/2"	- 10 5/8"	- 5 1/4"
STYLE #4171 – CASEMENT (*EGRESS HARDWARE)					
28"	29 1/4"	25 3/8" x 47"	27" x 48 1/2"	- 8"	- 5 1/4"

STYLE #4371 – SINGLE HUNG TILT					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq.ft. opening)	2 nd Floor (5.7 sq.ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
27"	66"	37" x 66"	40" x 68"	- 7"	(x.5) - 9"

STYLE #4372 – SINGLE SLIDER LIFTOUT					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq.ft. opening)	2 nd Floor (5.7 sq.ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
52 1/2"	31"	66" x 34"	66" x 37 3/4"	(x.5) - 6 1/4"	- 7"

Please Note:

Opening sizes shown are based on standard manufacturing allowance opening of the sashes. Vertical and horizontal sliding windows may be altered by trimming the sash stops to help meet minimum openings or square footage requirements. Consult your North Star Representative. All operators which slide are calculated with 50/50 split.

34 3/4
ft. opening

Opening sizes decrease when CMR is off-centered.
When calculating sizes other than the examples shown, use the formula to determine the size of the opening. Windows cannot be smaller than the minimum widths and heights shown.
e.g. – Casement window 30(w) x 40 1/2(h)
 $30(w)-9 \frac{13}{16} = 20 \frac{7}{16}$ $40 \frac{1}{2}(h)-4 \frac{3}{4} = 20 \frac{7}{16} \times 35 \frac{3}{4} = 721.70 \div 144 = 5.01$ sq. ft. opening

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5071 Picture Window

(No Sash)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 5 1/4" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

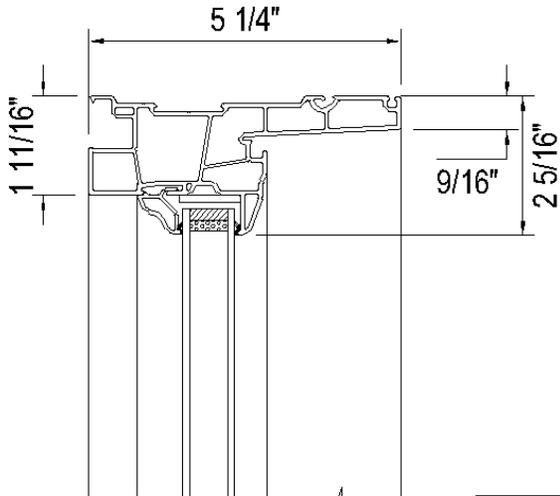
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

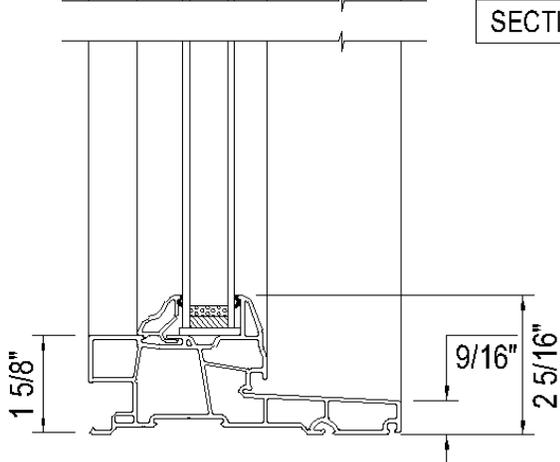
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

5071 Picture Window (No Sash) Details

HEAD DETAIL

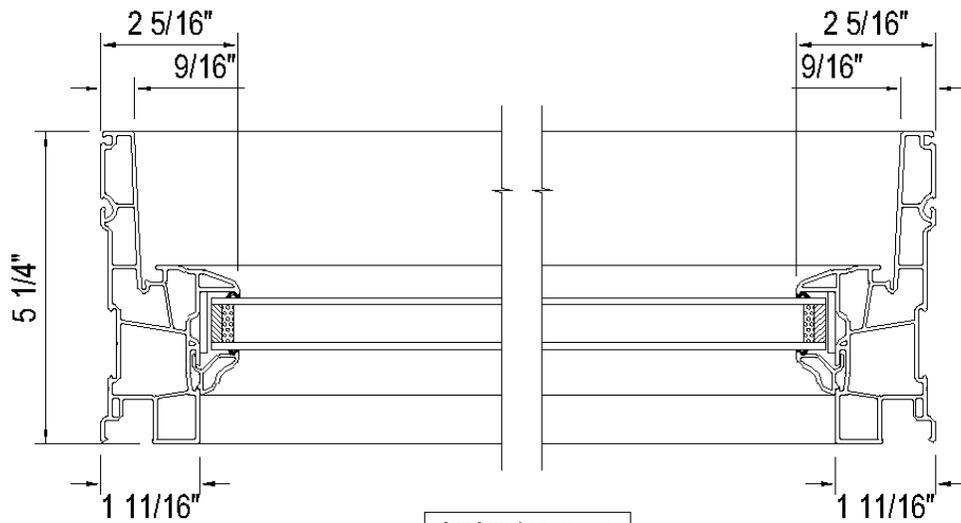
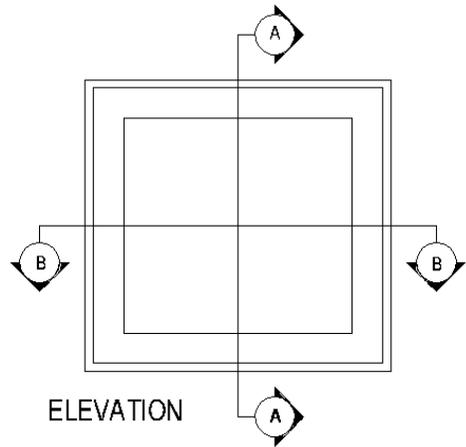


SECTION A - A



SILL DETAIL

CAN/CSA A440-00	
Air: Fixed	
Water: B7	
Structural: C5	
Forced Entry: N/A	
<hr/>	
DP Rating: CW-PG100-FW	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: Fixed	



SECTION B - B

JAMB DETAIL

JAMB DETAIL

5071 Architectural Shaped Window

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 5 1/4" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

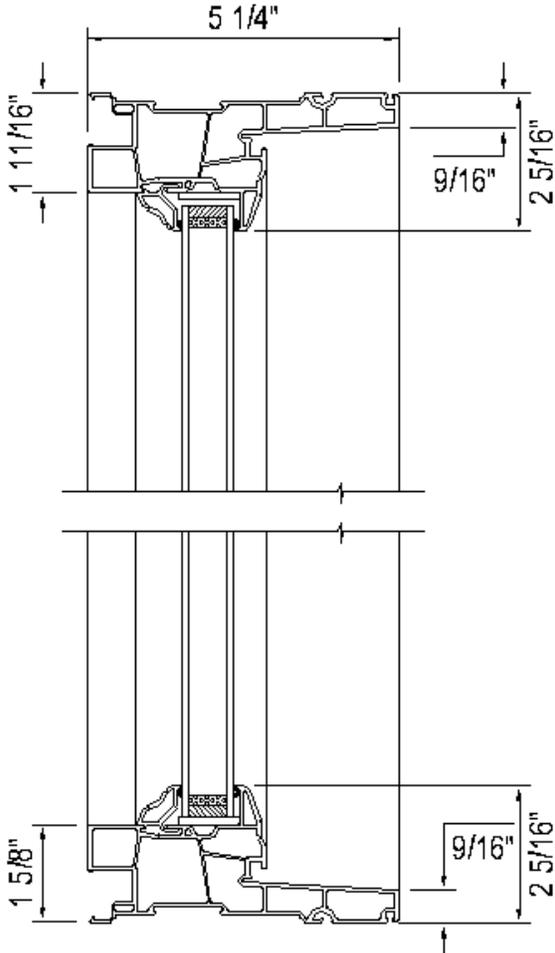
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

5071 Architectural Shaped Windows

HEAD DETAIL



CAN/CSA A440-00

Air: Fixed

Water: B7

Structural: C5

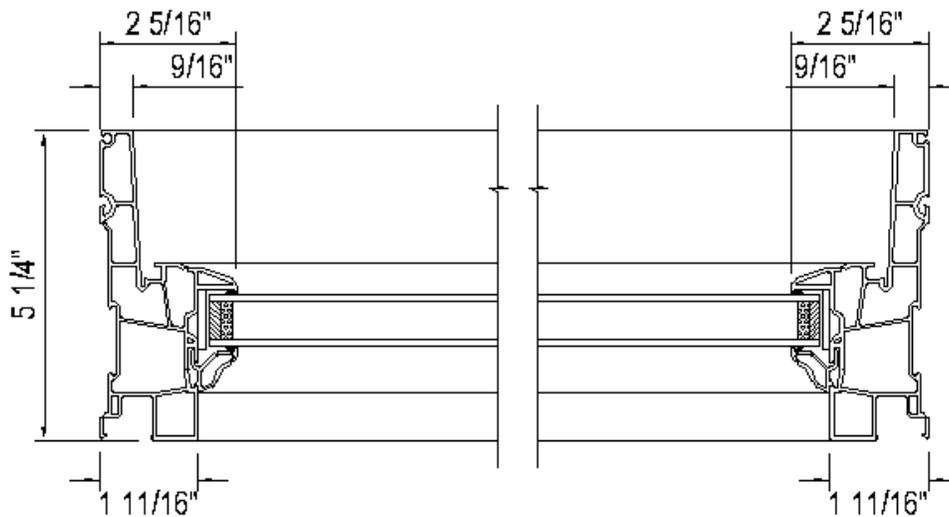
Forced Entry: N/A

DP Rating: CW-PG100-FW

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: Fixed

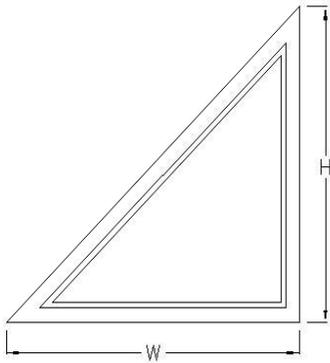
SILL DETAIL



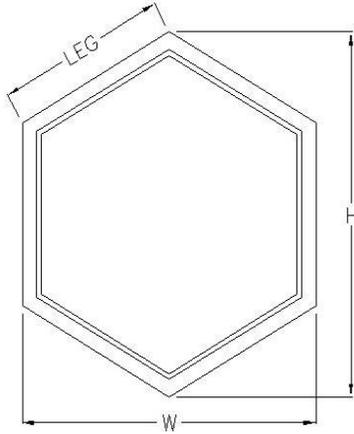
JAMB DETAIL

JAMB DETAIL

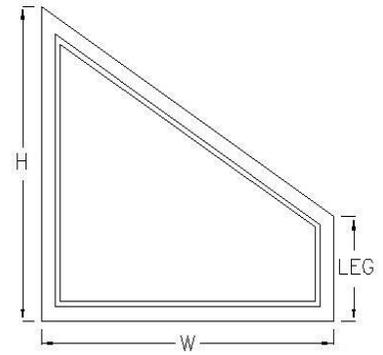
Non-Bent Geometric Shapes



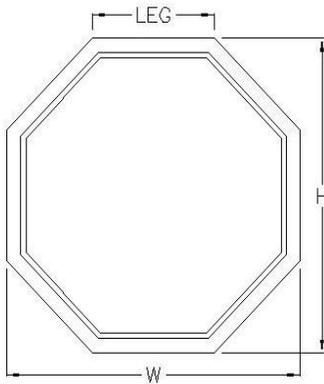
TRIANGLE
MODEL #5030



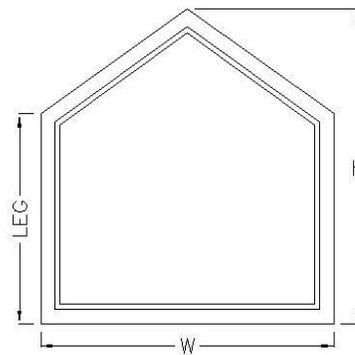
HEXAGON
MODEL #5031



TRAPEZOID
MODEL #5032

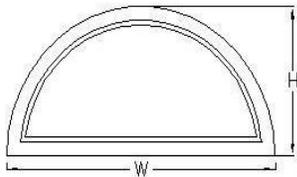


OCTAGON
MODEL #5033

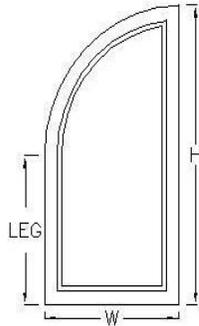


PENTAGON
MODEL #5034

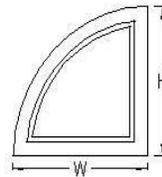
Bent Geometric Shapes



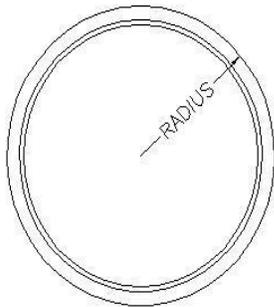
HALF ARCH
MODEL #5023



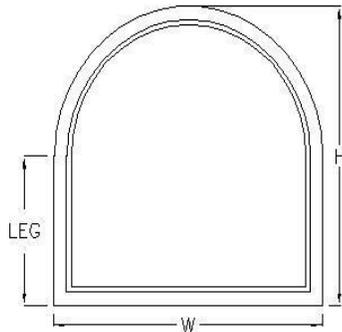
EXTENDED QUARTER ARCH
MODEL #5028B



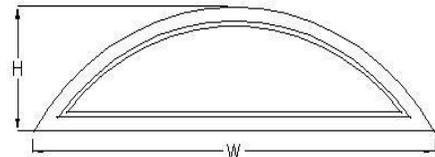
QUARTER ARCH
MODEL #5027



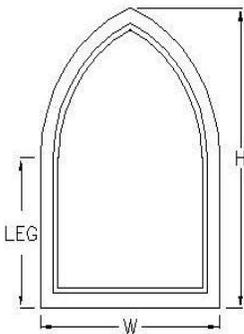
FULL CIRCLE
MODEL #5024



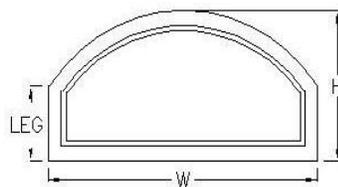
EXTENDED ARCH
MODEL #5028



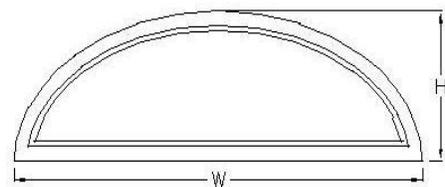
CORD/EYEBROW
MODEL #5025



CATHEDRAL
MODEL #5029



ELIPSE TOP
MODEL #5026



TRUE ELIPSE
MODEL #5037

5072 Picture Window (With Sash)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 5 ¼" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior sash edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available on casement, awning, picture window and North Star Patio Doors. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

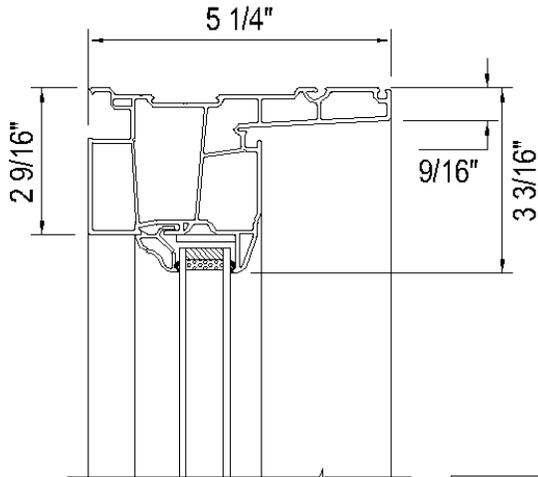
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

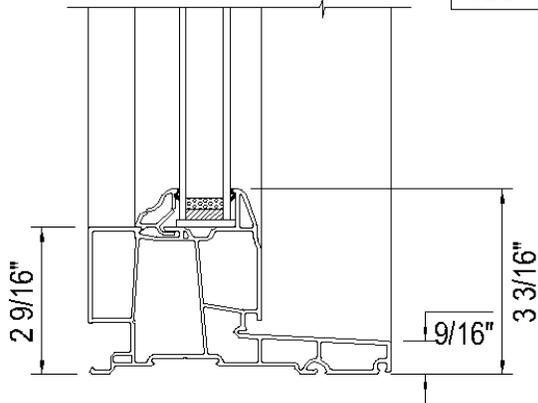
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

5072 Picture Window (With Sash) Details

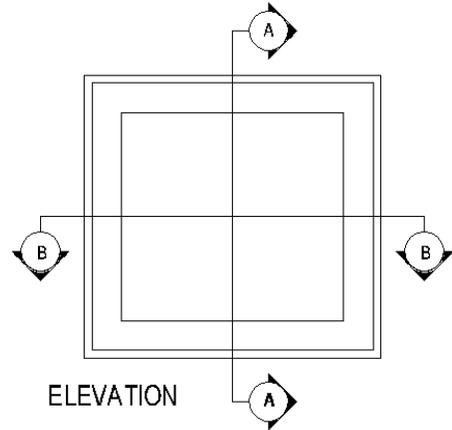
HEAD DETAIL



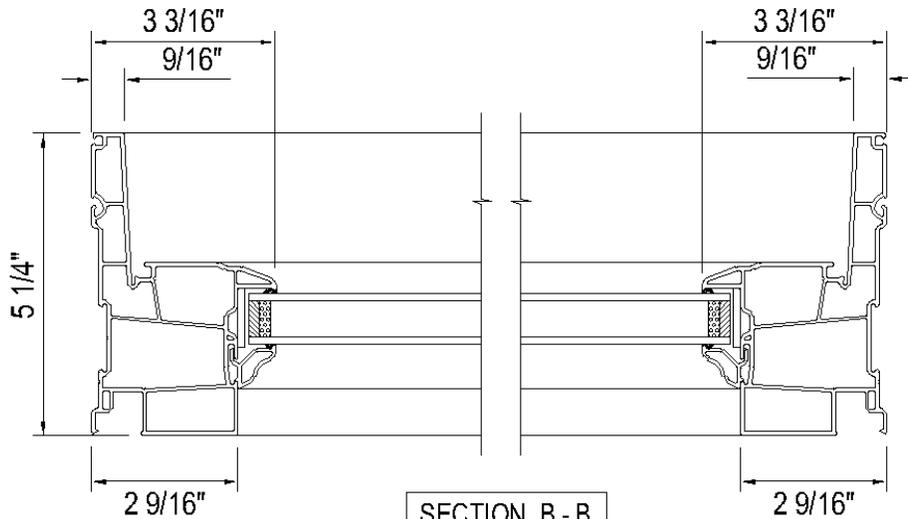
SECTION A - A



CAN/CSA A440-00	
Air: Fixed	
Water: B7	
Structural: C5	
Forced Entry: N/A	
<hr/>	
DP Rating: CW-PG70-FW	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: Fixed	



SILL DETAIL



SECTION B - B

JAMB DETAIL

JAMB DETAIL

5171 Casement Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 5 ¼" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Neoprene setting blocks are placed around glass in sash in diagonal pattern with silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible fin weather strip extruded to exterior edge of sash. Install architectural profiled interior glazing stops with soft flexible fin weather-strip against interior glass face.

Triple Weather-Stripping

Two flexible dual durometer bulb type compression gaskets are located around perimeter of window frame to ensure air and water tight seal and maximum energy efficiency. One water repellent pile weather-strip with stiff fin type vapor barrier is located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.

Hardware

Truth Maxim hardware has concealed hinges and heavy duty roto gear operator which allow sash to open to 90° for ease of cleaning. The roto gear operator will hold the sash at any position. Sash lock pulls weather-stripped sash against dual compression weather-strips on frame. Concealed multipoint sash locks are standard on units taller than 22" in height. All steel components have Truth E-Gard™ coating for superior corrosion protection. Snubber hardware on the frame and sash ensure compression of the bulb weather-strip opposite to the lock side.

Hardware Options

Standard Truth Maxim roto gear operator and sash locks are standard in white with contour handle. Truth Encore folding handle with roto gear nesting cover is available in white, faux bronze, brushed antique chrome, satin nickel and oil rubbed bronze finish.

Note: Limit sash opening hardware is available.

Screen

North Star Heavy Duty EZ-Screens are roll formed from heavy duty .025" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has spring loaded corner keys for easy removal and installation of screen. Standard screens are white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

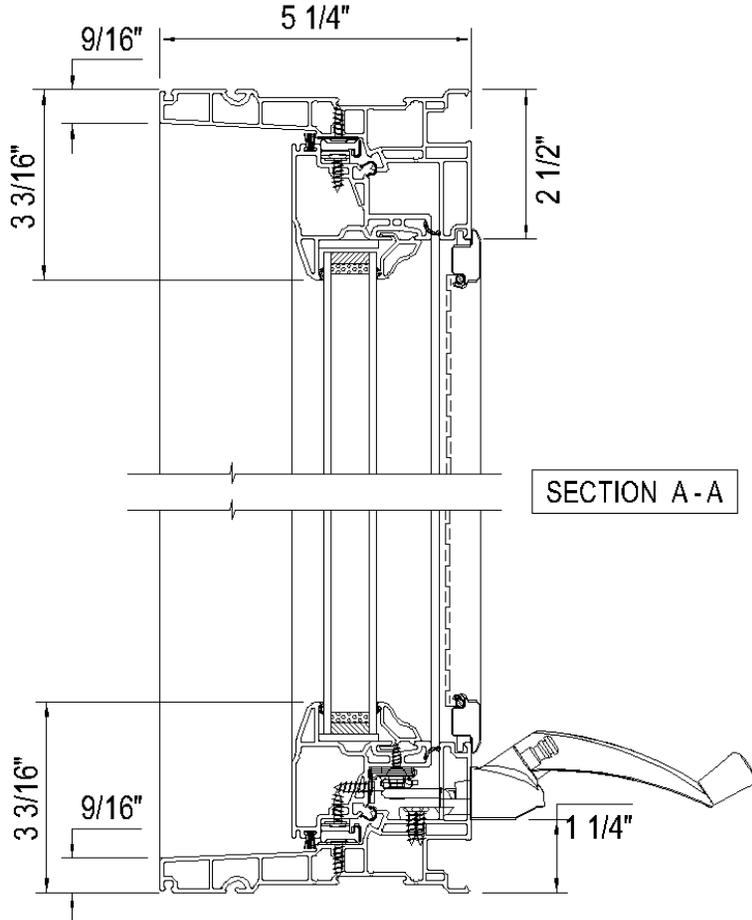
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for casement windows that enable narrow sizes to meet egress codes.

5171 Casement Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A3

Water: B7

Structural: C5

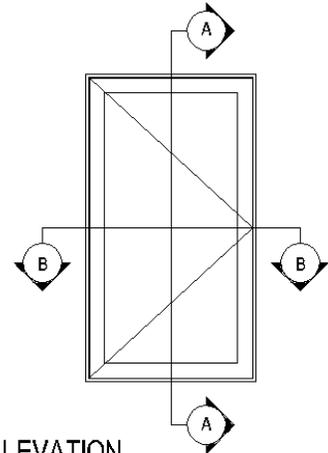
Screen: S1

Forced Entry: F20

DP Rating: R-PG100-C

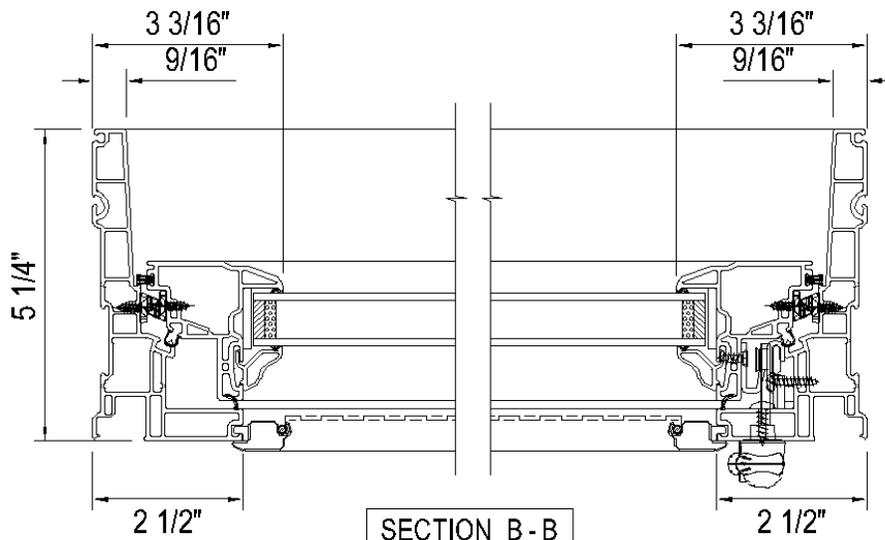
Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A3



ELEVATION
EXTERIOR VIEW - RIGHT
HAND HINGE

SILL DETAIL



JAMB DETAIL

JAMB DETAIL

5173 Awning Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 5 ¼" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Neoprene setting blocks are placed around glass in sash in diagonal pattern with silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible fin weather strip extruded to exterior edge of sash. Install architectural profiled interior glazing stops with soft flexible fin weather-strip against interior glass face.

Triple Weather-Stripping

Two flexible dual durometer bulb type compression gaskets are located around perimeter of window frame to ensure air and water tight seal and maximum energy efficiency. One water repellent pile weather-strip with stiff fin type vapor barrier is located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.

Hardware

Truth Maxim hardware has concealed scissor hinges and heavy duty roto gear operator. The roto gear operator will hold the sash at any position. Sash lock pulls weather-stripped sash against dual compression weather-strips on frame. Dual sash locks located on window jamb. All steel components have Truth E-Gard™ coating for superior corrosion protection. Snubber hardware on windows 42" wide and over is applied to the frame and sash at head of window to ensure compression of the bulb weather-strip opposite to sill hardware.

Hardware Options

Standard Truth Maxim roto gear operator and sash locks are standard in white with contour handle. Truth Encore folding handle with roto gear nesting cover is available in white, faux bronze, brushed antique chrome, satin nickel and oil rubbed bronze finish.

Screen

North Star Heavy Duty EZ-Screens are roll formed from heavy duty .025" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has spring loaded corner keys for easy removal and installation of screen. Standard screens are white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

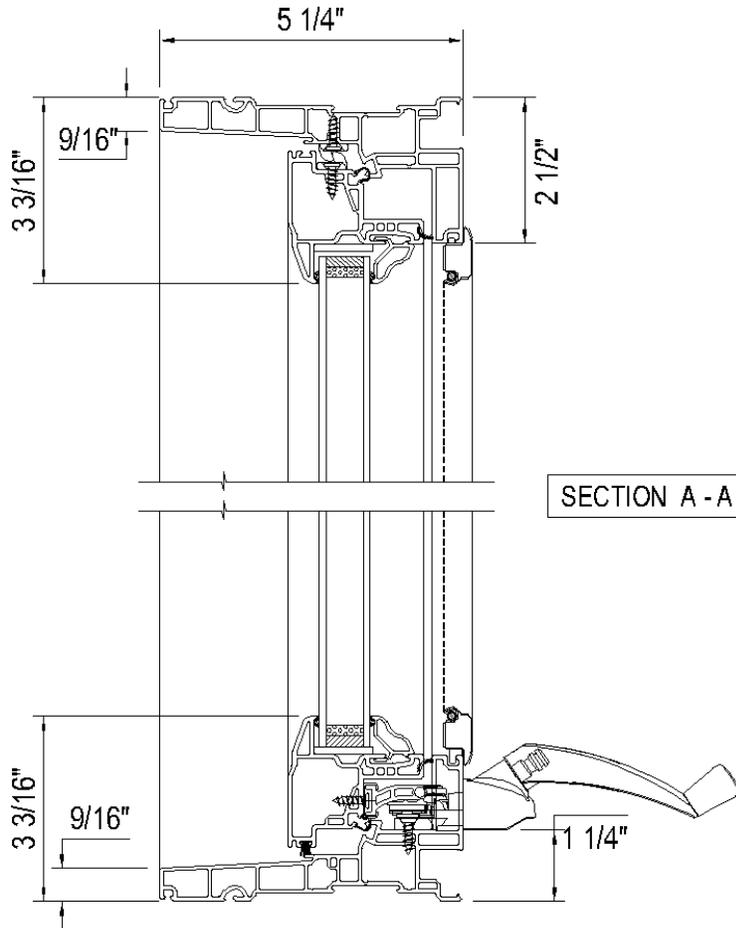
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

5173 Awning Window Details

HEAD DETAIL



SECTION A - A

CAN/CSA A440-00

Air: A3

Water: B7

Structural: C4

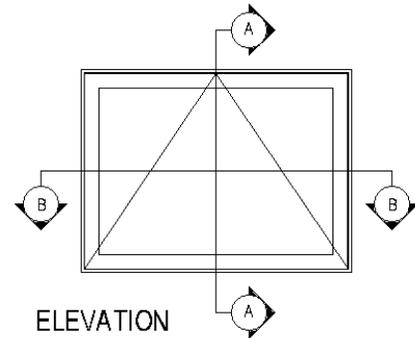
Screen: S1

Forced Entry: F20

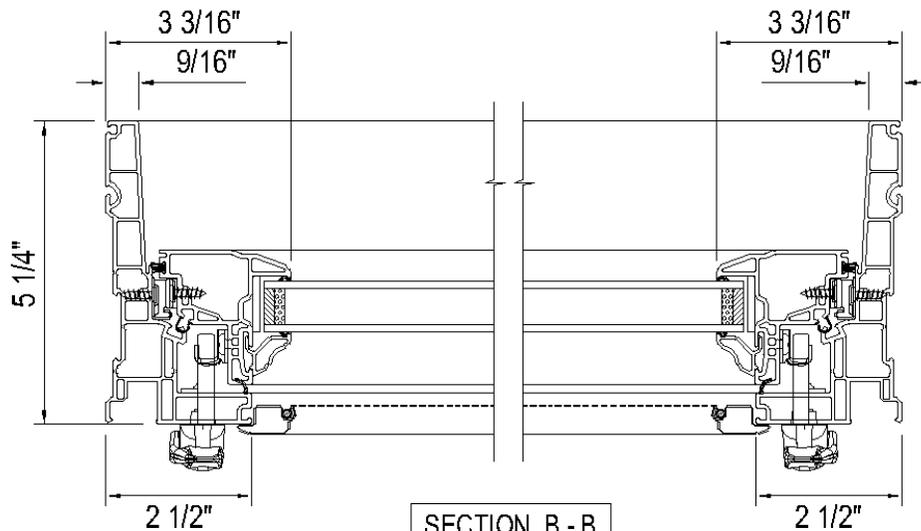
DP Rating: LC-PG65-AP

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A3



SILL DETAIL



SECTION B - B

JAMB DETAIL

JAMB DETAIL

5371 Single Hung Tilt Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 5 1/4" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Seven water repellant pile weather-strips with stiff fin type vapor barriers are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two additional pile weather-strips are incorporated for added weatherability. One weather-strip is located on the inside of the window frame at sill and one weather-strip on the fixed upper sash where lower and upper sash overlap. A bulb gasket is located on the bottom of the lower sash.

Hardware

Two die-cast self-latching cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 30" in width require one cam lock and keeper. Each sash is operated with two stainless steel constant force coil spring balance hardware. True recessed finger latches release lower sash to allow sash to tilt in for ease of cleaning. Full length sash pull handles are extruded into the interior glazing stop profile. Standard color is white.

Hardware Options

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star Single Hung 1/2 screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

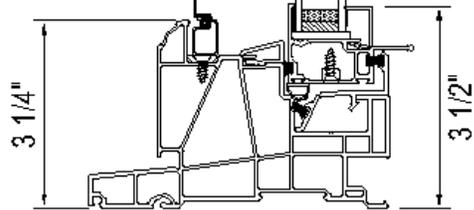
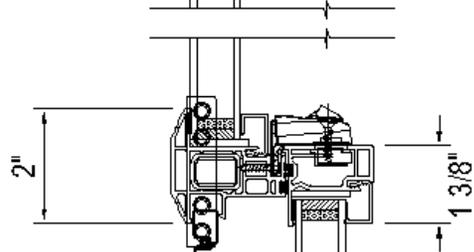
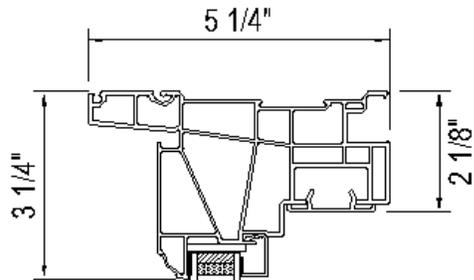
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single hung tilt windows that enable narrow sizes to meet egress codes.

5371 Single Hung Tilt Window Details

HEAD DETAIL



SECTION A-A

CAN/CSA A440-00

Air: A3/Fixed

Water: B7

Structural: C3

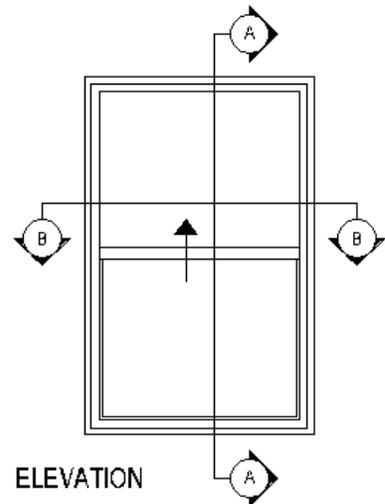
Screen: S1

Forced Entry: F20

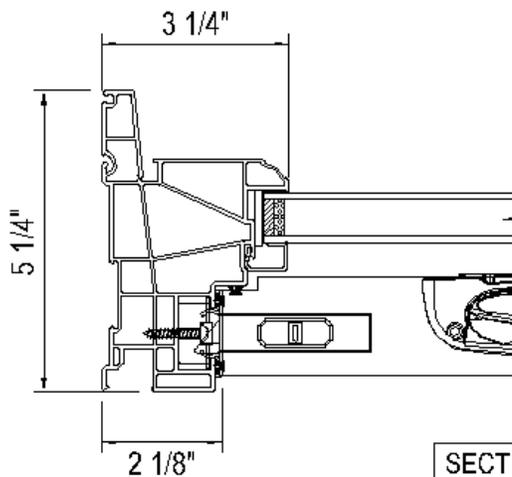
DP Rating: R-PG85-H

Water Resistance (psf): 730 (15.0)

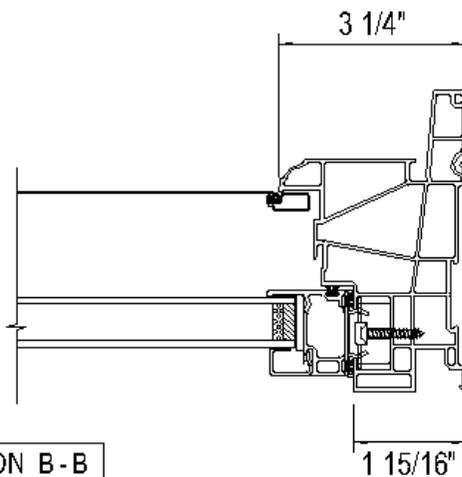
Air Infiltration/Exfiltration: A3



SILL DETAIL



SECTION B-B



JAMB DETAIL

JAMB DETAIL

5372 Single Slider Liftout Window

SPECIFICATIONS

Note: Single Slider 5372 has left side operating and right side fixed.

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 5 1/4" depth.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Six water repellant pile weather-strips with stiff fin type vapor barriers are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two interior side water repellant pile weather-strips with stiff fin type vapor barrier are located on the inside of window frame at sill and jamb location; as well as a third weather strip on fixed sash checkrail for additional protection against air and water penetration.

Hardware

Two die-cast self-latching cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 30" in height require one cam lock and keeper. Sash release latches are secured to sash to allow tilt in and lift out of operating sash for ease of cleaning. Tandem brass rollers located on bottom of sash allow for smooth effortless opening and closing of sash. Full length sash pull handles are extruded into the interior glazing stop profile. Standard profile color is white.

Hardware Options

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

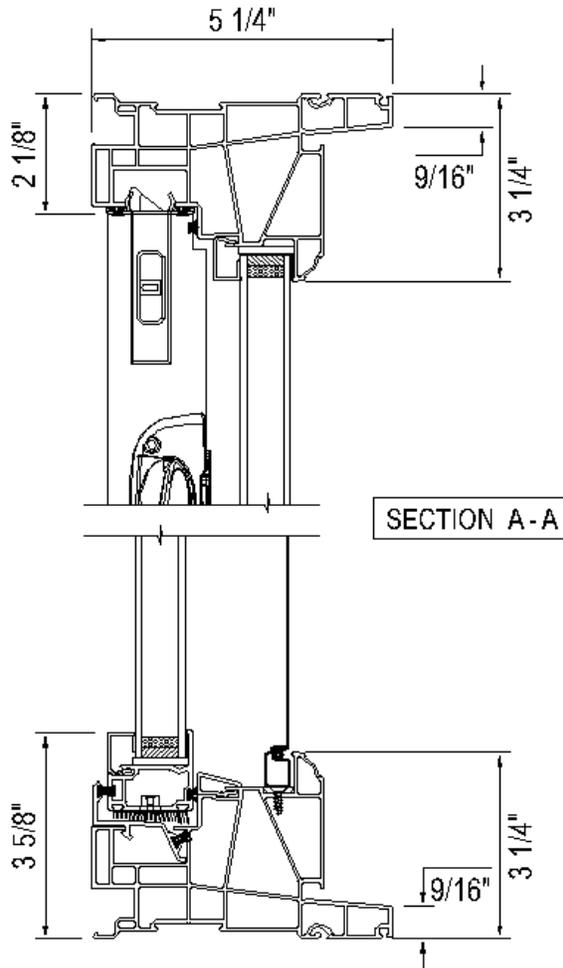
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single slider liftout windows that enable narrow sizes to meet egress codes.

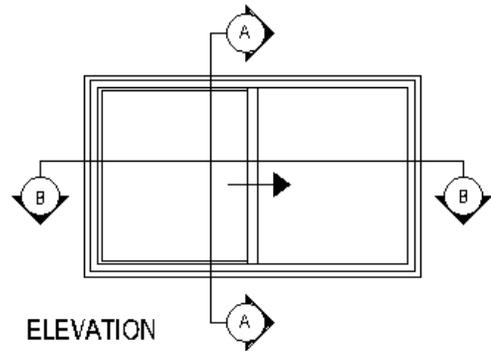
5372 Single Slider Liftout Window Details

HEAD DETAIL

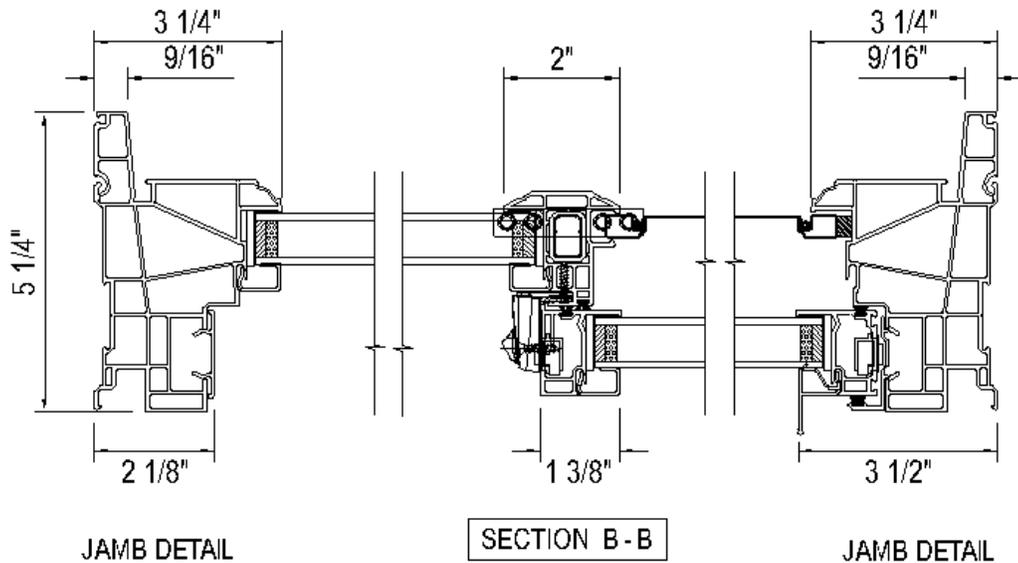


SECTION A-A

CAN/CSA A440-00	
Air: A3/Fixed	
Water: B4	
Structural: C4	
Screen: S1	
Forced Entry: F20	
<hr/>	
DP Rating: R-PG60-HS	
Water Resistance (psf): 620 (12.75)	
Air Infiltration/Exfiltration: A3	



SILL DETAIL



JAMB DETAIL

SECTION B-B

JAMB DETAIL

5377 Picture Window (Singles Frame)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 5 ¼" depth.

Note: Profiles are designed to match sliding window profiles.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

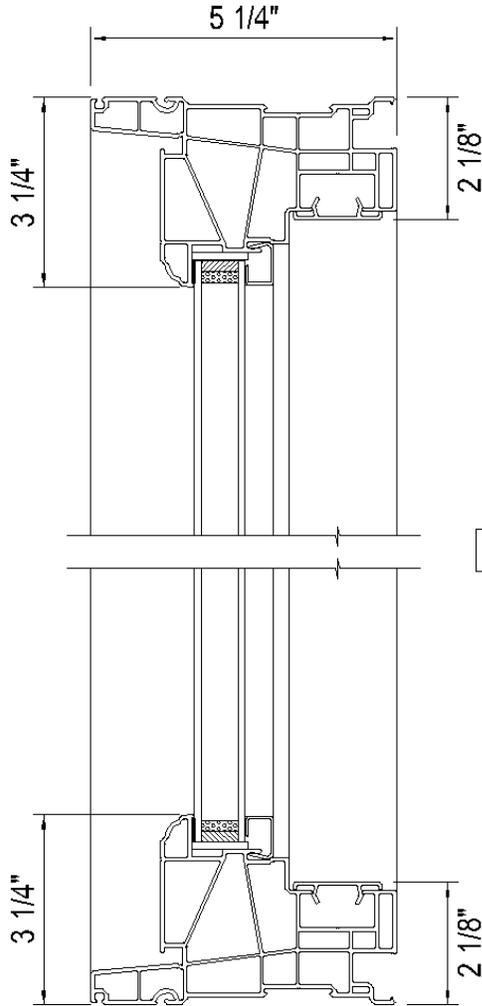
Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

5377 Picture Window (Singles Frame)

Details

HEAD DETAIL



SECTION A - A

CAN/CSA A440-00

Air: Fixed

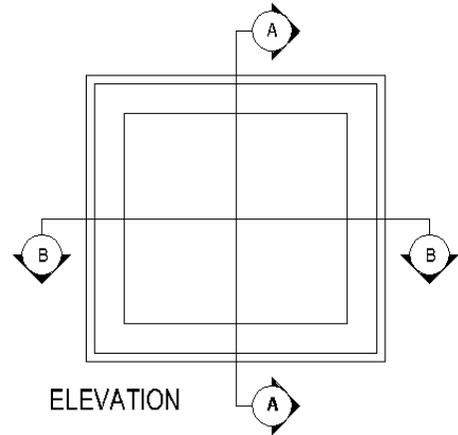
Water: B7

Structural: C3

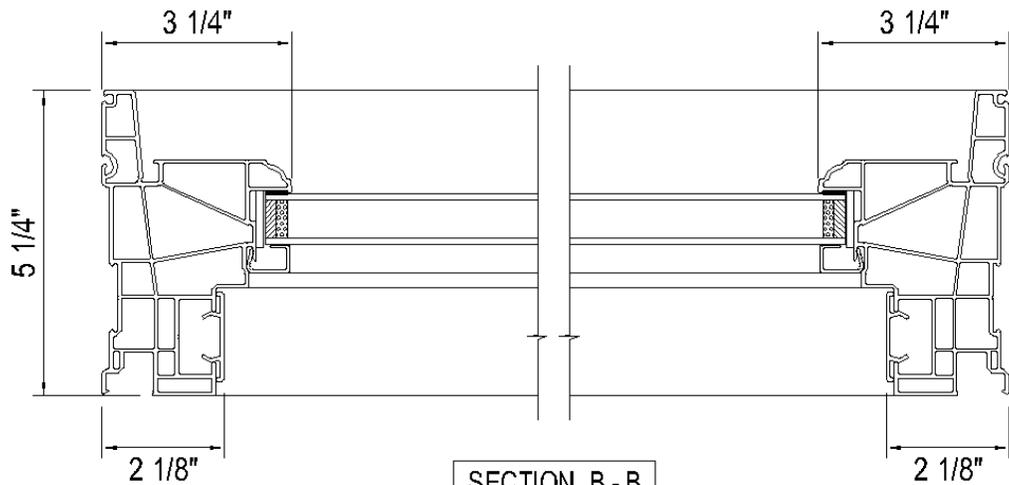
Forced Entry: N/A

DP Rating: CW-PG45-FW

Water Resistance (psf): 730
(15.0)



SILL DETAIL



SECTION B - B

JAMB DETAIL

JAMB DETAIL

Maximum and Minimum Sizes

SIZE LIMITATIONS (5000 SERIES)			
Window Type		Minimum Overall Size	Maximum One Way
5071 Picture (No Sash)	Double Glazed	10" x 10"	132" or 30 sq. ft. *
	Triple Glazed	N/A	130" or 22 sq. ft.
5072 Picture (With Sash)	Double Glazed	12" x 12"	132" or 40 sq. ft. *
	Triple Glazed	N/A	130" or 30 sq. ft.
5171 Casement	Double Glazed	15-3/4" x 17"	Max. 108 U.I (width plus height) Width cannot be greater than 36" Height cannot be greater than 78"
	Triple Glazed	15-3/4" x 17"	Max. 98 U.I (width plus height) Width cannot be greater than 36" Height cannot be greater than 78"
5173 Awning	Double Glazed	21" x 15-3/4"	Max. 108 U.I (width plus height) Width cannot be greater than 60" Height cannot be greater than 48"
	Triple Glazed	21" x 15-3/4"	Max. 96 U.I (width plus height) Width cannot be greater than 60" Height cannot be greater than 48"
5371 Single Hung Tilt	Double Glazed	13" x 21"	Max. 120 U.I (width plus height) Width cannot be greater than 48" Height cannot be greater than 78"
	Triple Glazed	13" x 21"	Max. 104 U.I (width plus height) Width cannot be greater than 42" Height cannot be greater than 78"
5372 Single Slider Lifout	Double Glazed	22" x 13"	Max. 132 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 60"
	Triple Glazed	22" x 13"	Max. 114 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 54"
5377 Picture (Singles Frame)	Double Glazed	13" x 13"	132" or 40 sq. ft. *
	Triple Glazed	N/A	30 sq. ft.

***Some glass options will have other size restrictions**

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5071 Hybrid Picture Window (No Sash)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 5 ¼" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

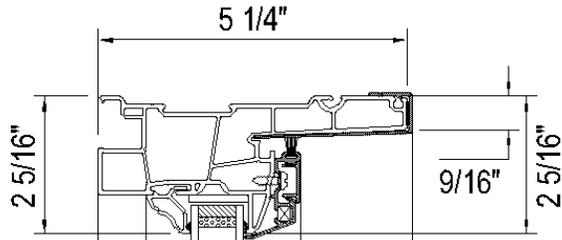
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

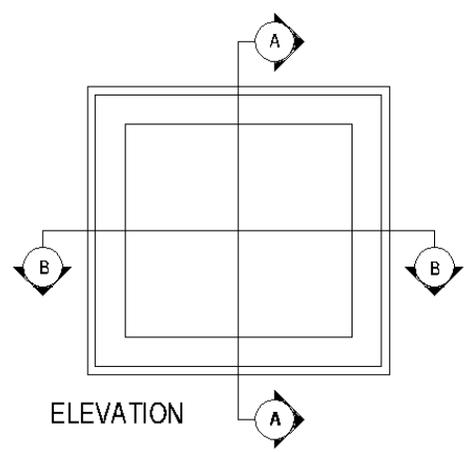
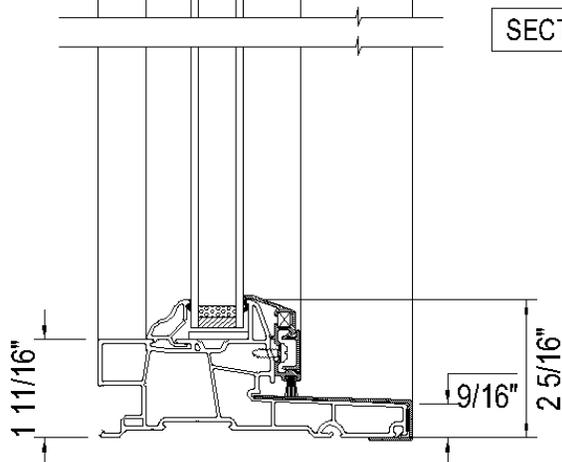
5071 Hybrid Picture Window (No Sash) Details

HEAD DETAIL

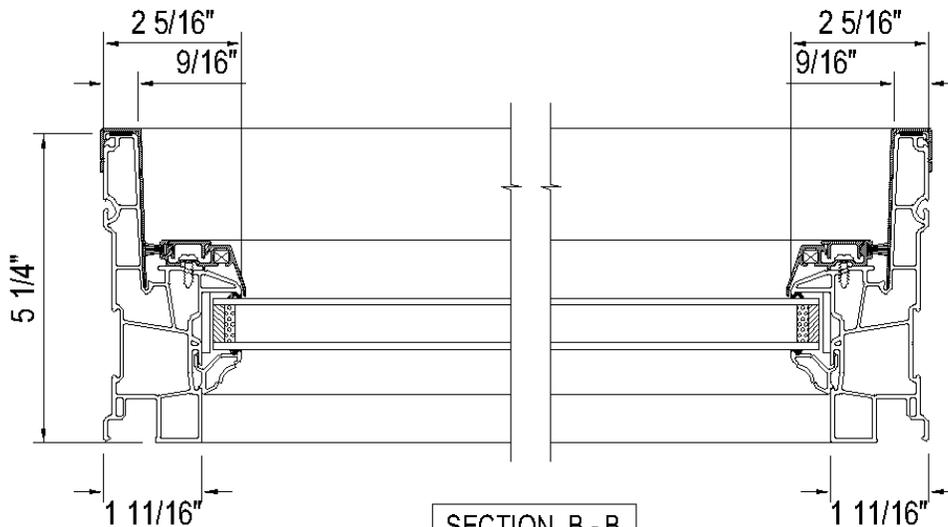


CAN/CSA A440-00	
Air: Fixed	
Water: B7	
Structural: C5	
Forced Entry: N/A	
<hr/>	
DP Rating: CW-PG100-FW	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: Fixed	

SECTION A - A



SILL DETAIL

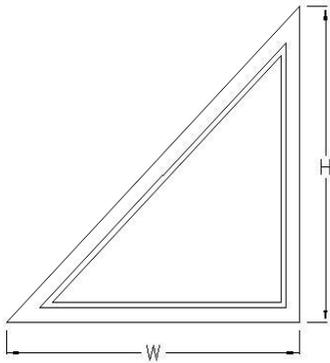


SECTION B - B

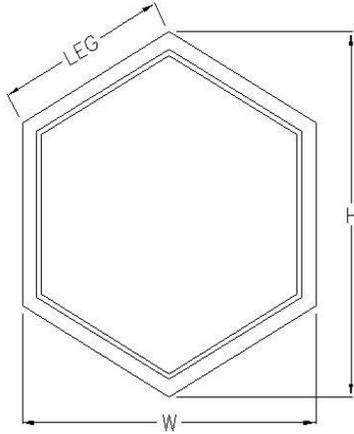
JAMB DETAIL

JAMB DETAIL

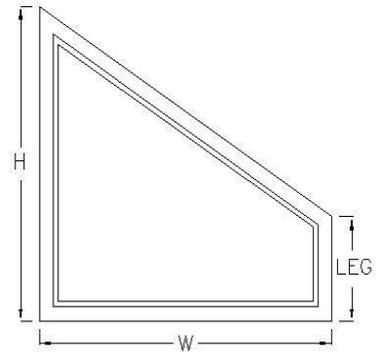
Non-Bent Geometric Shapes



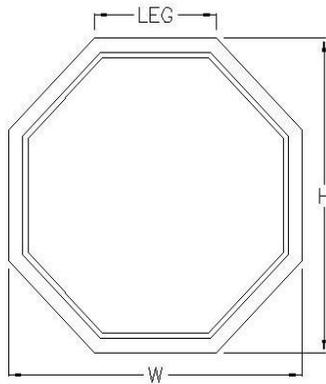
TRIANGLE



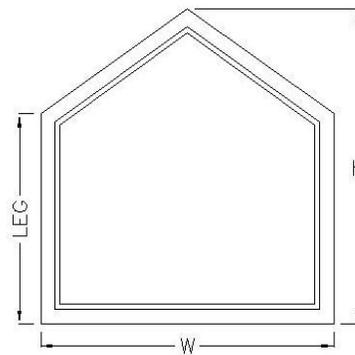
HEXAGON



TRAPEZOID

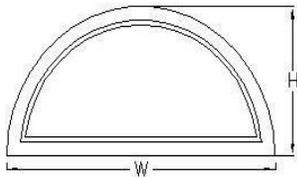


OCTAGON

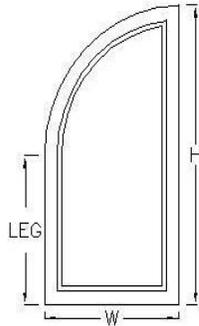


PENTAGON

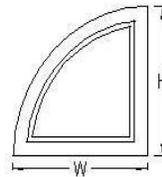
Bent Geometric Shapes



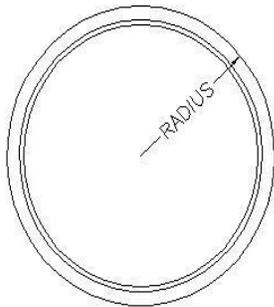
HALF ARCH



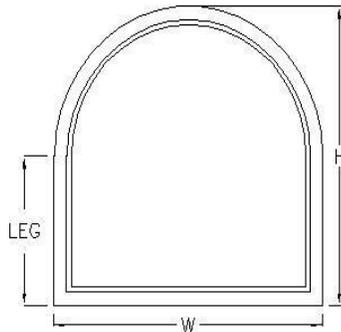
EXTENDED QUARTER ARCH



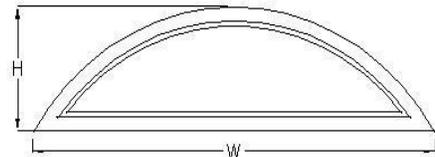
QUARTER ARCH



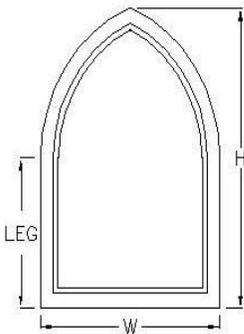
FULL CIRCLE



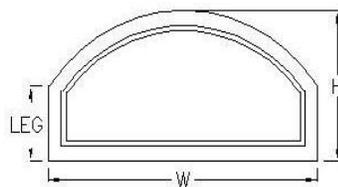
EXTENDED ARCH



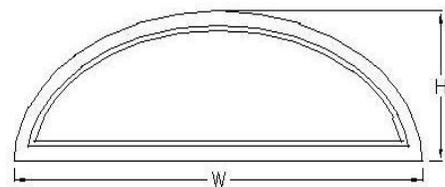
CORD/EYEBROW



CATHEDRAL



ELIPSE TOP



TRUE ELIPSE

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5072 Hybrid Picture Window (With Sash)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 5 ¼" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install architectural profiled interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior sash edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available on casement, awning, picture window and North Star Patio Doors. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

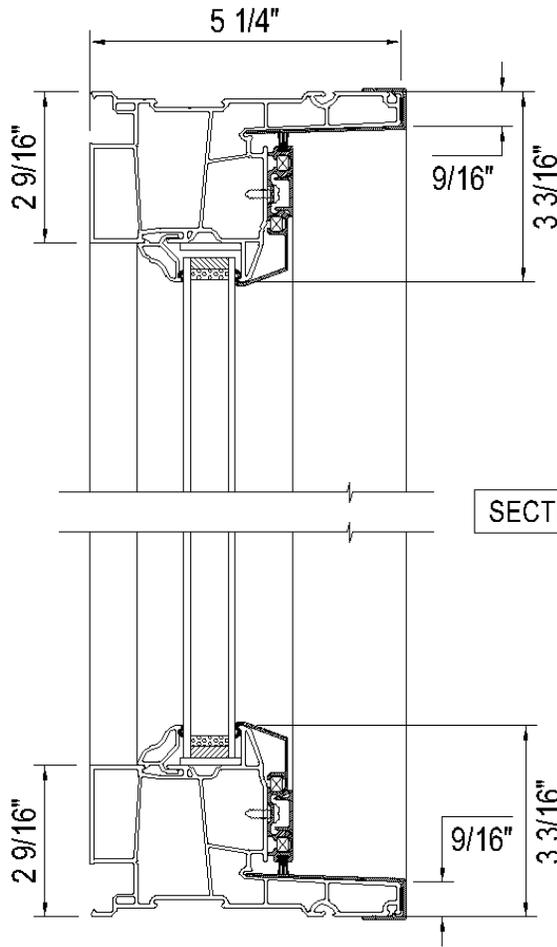
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

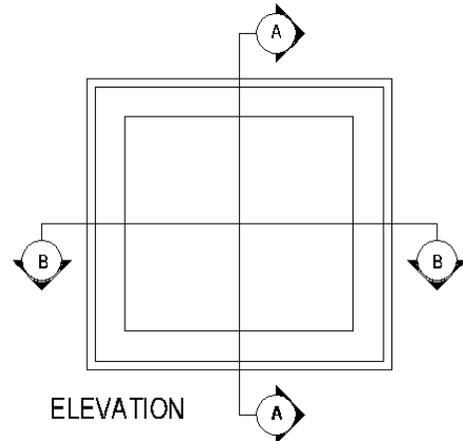
5072 Hybrid Picture Window (With Sash) Details

HEAD DETAIL

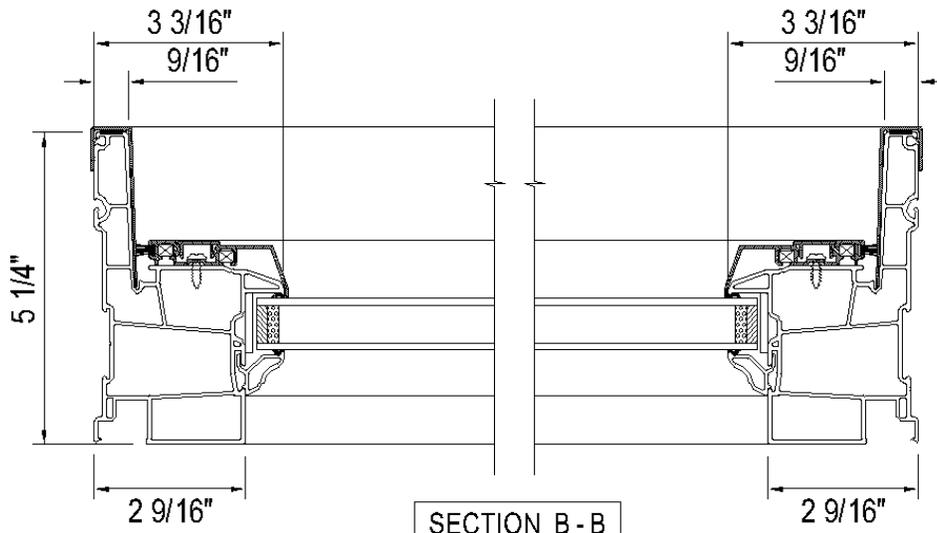


SECTION A-A

CAN/CSA A440-00	
Air: Fixed	
Water: B7	
Structural: C5	
Forced Entry: N/A	
<hr/>	
DP Rating: CW-PG70-FW	
Water Resistance (psf): 730 (15.0)	
Air Infiltration/Exfiltration: Fixed	



SILL DETAIL



SECTION B-B

JAMB DETAIL

JAMB DETAIL

5171 Hybrid Casement Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 5 ¼" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Neoprene setting blocks are placed around glass in sash in diagonal pattern with silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible fin weather strip extruded to exterior edge of sash. Install architectural profiled interior glazing stops with soft flexible fin weather-strip against interior glass face.

Triple Weather-Stripping

Two flexible dual durometer bulb type compression gaskets are located around perimeter of window frame to ensure air and water tight seal and maximum energy efficiency. One water repellent pile weather-strip with stiff fin type vapor barrier is located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.

Hardware

Truth Maxim hardware has concealed hinges and heavy duty roto gear operator which allow sash to open to 90° for ease of cleaning. The roto gear operator will hold the sash at any position. Sash lock pulls weather-stripped sash against dual compression weather-strips on frame. Concealed multipoint sash locks are standard on units taller than 22" in height. All steel components have Truth E-Gard™ coating for superior corrosion protection. Snubber hardware on the frame and sash ensure compression of the bulb weather-strip opposite to the lock side.

Hardware Options

Standard Truth Maxim roto gear operator and sash locks are standard in white with contour handle. Truth Encore folding handle with roto gear nesting cover is available in white, faux bronze, brushed antique chrome, satin nickel and oil rubbed bronze finish.

Note: Limit sash opening hardware is available.

Screen

North Star Heavy Duty EZ-Screens are roll formed from heavy duty .025" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has spring loaded corner keys for easy removal and installation of screen. Standard screens are white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

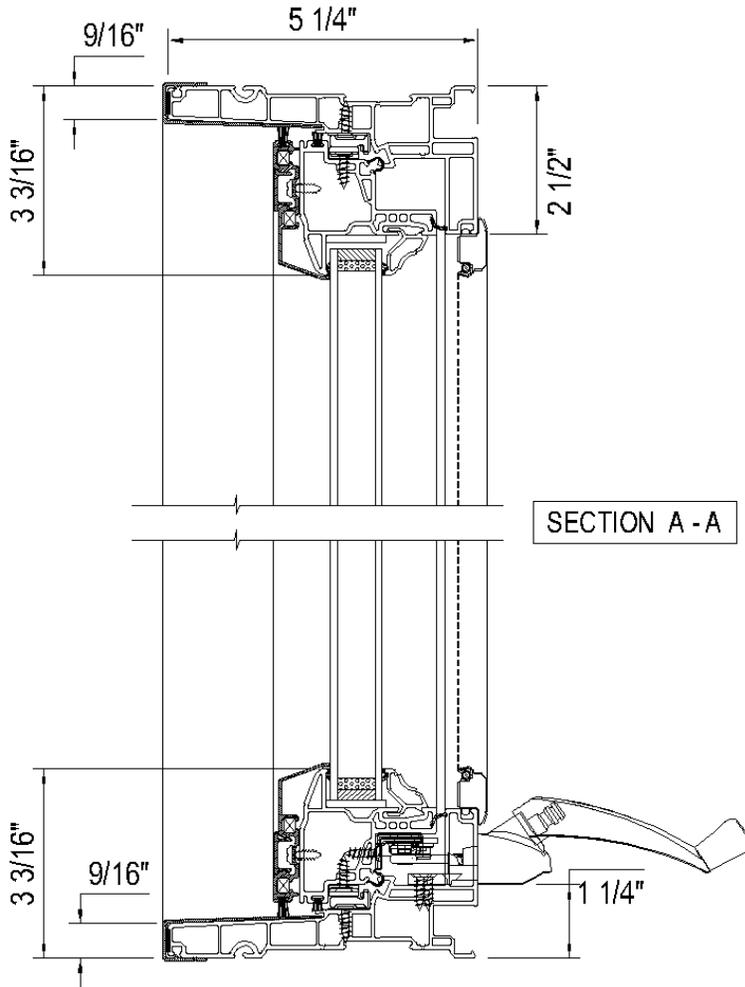
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for casement windows that enable narrow sizes to meet egress codes.

5171 Hybrid Casement Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A3

Water: B7

Structural: C5

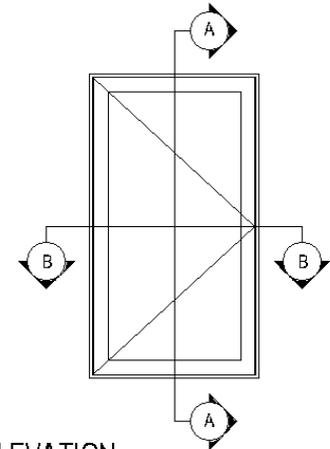
Screen: S1

Forced Entry: F20

DP Rating: R-PG100-C

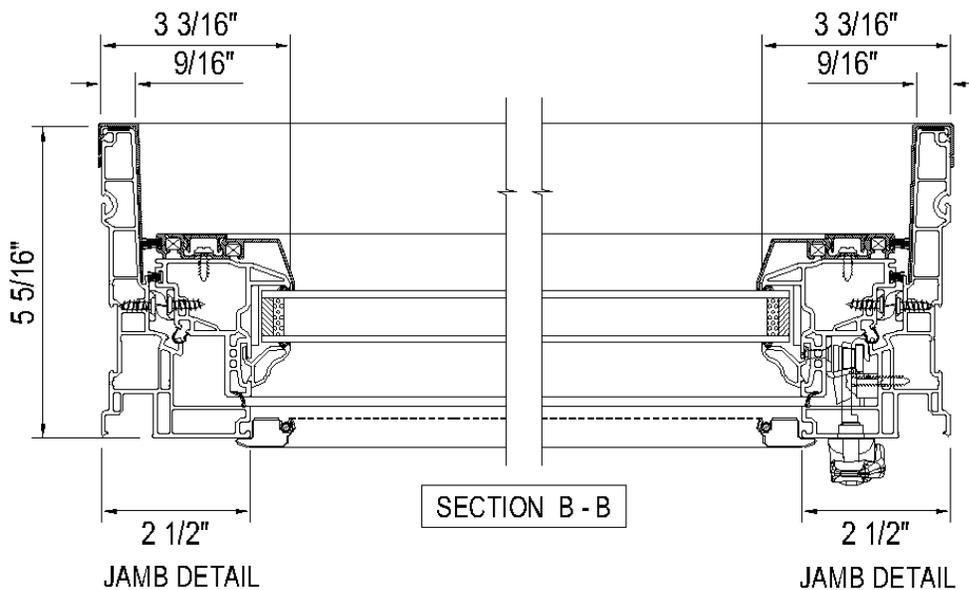
Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A3



ELEVATION
EXTERIOR VIEW - RIGHT
HAND HINGE

SILL DETAIL



5173 Hybrid Awning Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove, an integrated channel for folding nail fin and an integrated wood/drywall return on interior. Frames are a full 5 ¼" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Neoprene setting blocks are placed around glass in sash in diagonal pattern with silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible fin weather strip extruded to exterior edge of sash. Install architectural profiled interior glazing stops with soft flexible fin weather-strip against interior glass face.

Triple Weather-Stripping

Two flexible dual durometer bulb type compression gaskets are located around perimeter of window frame to ensure air and water tight seal and maximum energy efficiency. One water repellent pile weather-strip with stiff fin type vapor barrier is located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.

Hardware

Truth Maxim hardware has concealed scissor hinges and heavy duty roto gear operator. The roto gear operator will hold the sash at any position. Sash lock pulls weather-stripped sash against dual compression weather-strips on frame. Dual sash locks located on window jamb. All steel components have Truth E-Gard™ coating for superior corrosion protection. Snubber hardware on windows 42" wide and over is applied to the frame and sash at head of window to ensure compression of the bulb weather-strip opposite to sill hardware.

Hardware Options

Standard Truth Maxim roto gear operator and sash locks are standard in white with contour handle. Truth Encore folding handle with roto gear nesting cover is available in white, faux bronze, brushed antique chrome, satin nickel and oil rubbed bronze finish.

Screen

North Star Heavy Duty EZ-Screens are roll formed from heavy duty .025" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has spring loaded corner keys for easy removal and installation of screen. Standard screens are white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

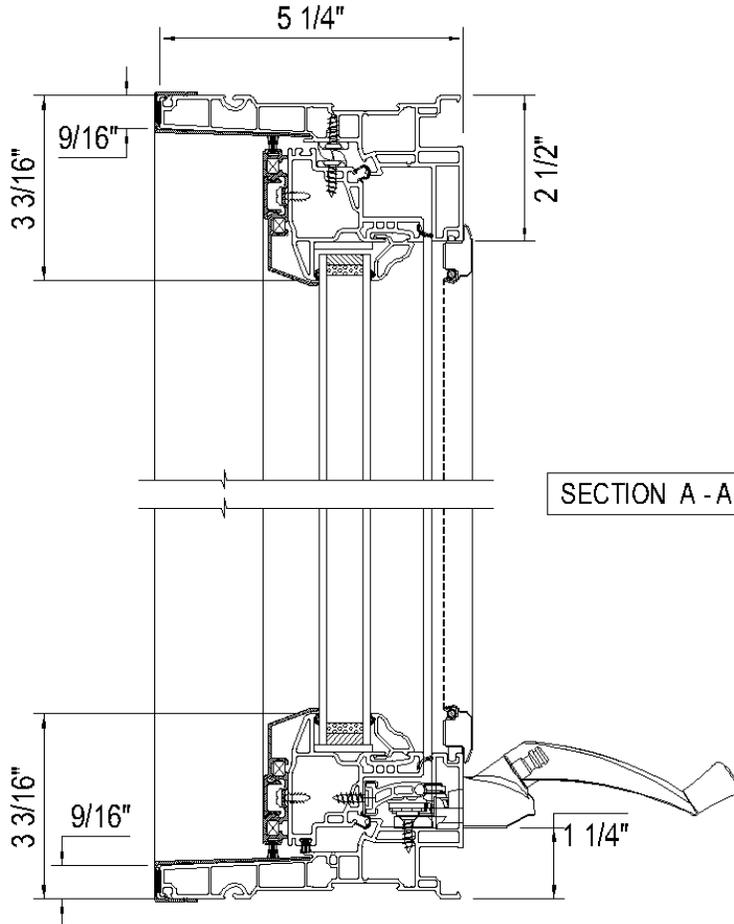
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

5173 Hybrid Awning Window Details

HEAD DETAIL



CAN/CSA A440-00

Air: A3

Water: B7

Structural: C4

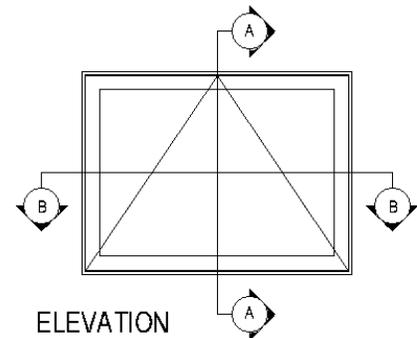
Screen: S1

Forced Entry: F20

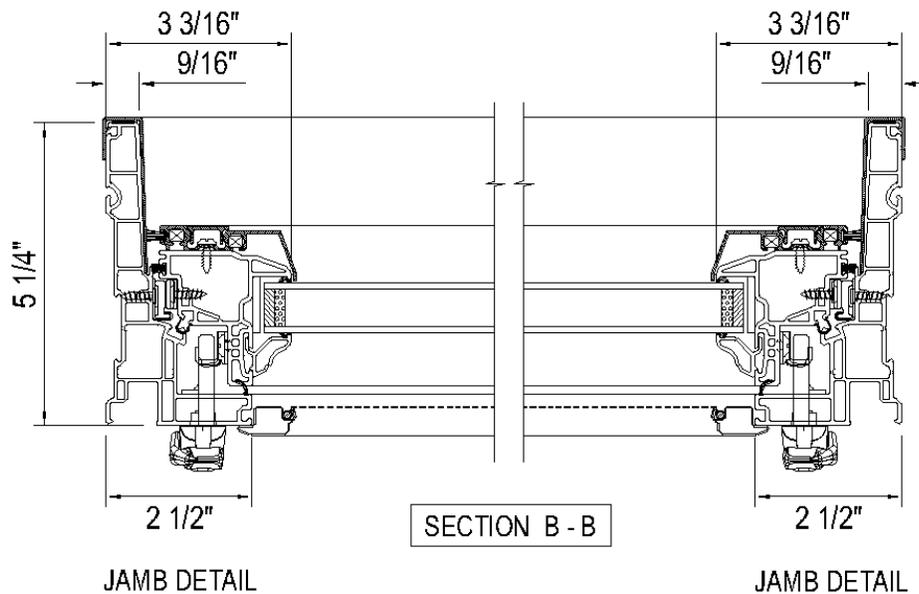
DP Rating: LC-PG65-AP

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A3



SILL DETAIL



5371 Hybrid Single Hung Tilt Window

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 5 1/4" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Seven water repellant pile weather-strips with stiff fin type vapor barriers are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two additional pile weather-strips are incorporated for added weatherability. One weather-strip is located on the inside of the window frame at sill and one weather-strip on the fixed upper sash where lower and upper sash overlap. A bulb gasket is located on the bottom of the lower sash.

Hardware

Two die-cast self-latching cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 30" in width require one cam lock and keeper. Each sash is operated with two stainless steel constant force coil spring balance hardware. True recessed finger latches release lower sash to allow sash to tilt in for ease of cleaning. Full length sash pull handles are extruded into the interior glazing stop profile. Standard color is white.

Hardware Options

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star Single Hung 1/2 screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

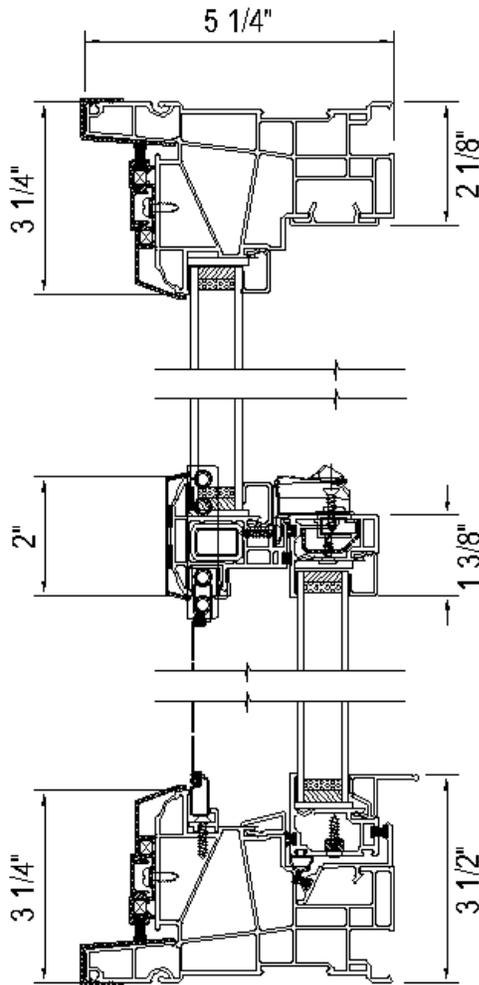
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single hung tilt windows that enable narrow sizes to meet egress codes.

5371 Hybrid Single Hung Tilt Window Details

HEAD DETAIL



SECTION A - A

CAN/CSA A440-00

Air: A3/Fixed

Water: B7

Structural: C3

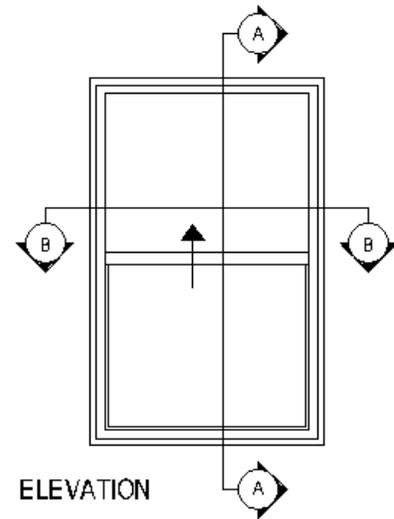
Screen: S1

Forced Entry: F20

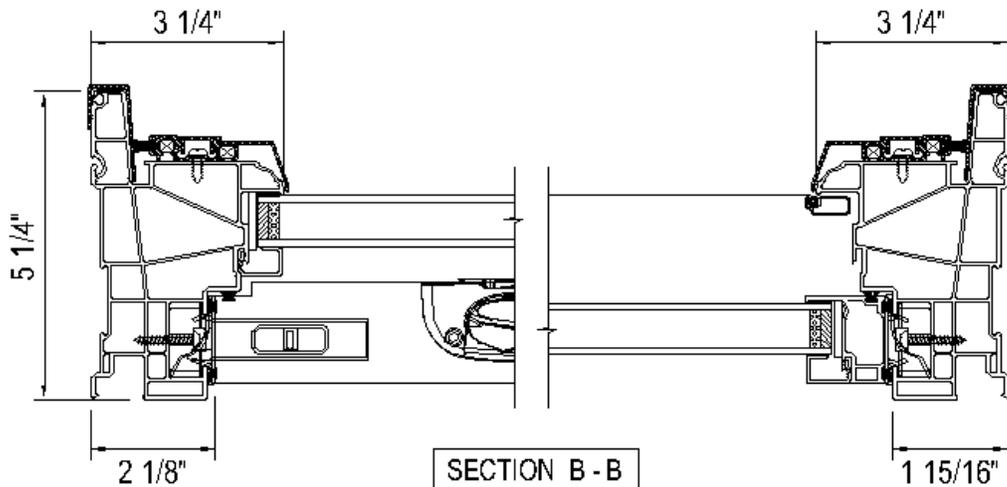
DP Rating: R-PG85-H

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: A3



SILL DETAIL



SECTION B - B

JAMB DETAIL

JAMB DETAIL

5372 Hybrid Single Slider Liftout Window

SPECIFICATIONS

Note: Hybrid Single Slider 5372 has left side operating and right side fixed.

Frame and Sash

All frame and sash profiles are extruded from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Frames complete with recessed drain covers with reticulated foam to keep insects out. Frames and sash are fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 5 ¼" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Multiple Weather-Stripping

Six water repellent pile weather-strips with stiff fin type vapor barriers are located around perimeter of each operable window sash to ensure air and water tight seal and maximum energy efficiency. Two interior side water repellent pile weather-strips with stiff fin type vapor barrier are located on the inside of window frame at sill and jamb location; as well as a third weather strip on fixed sash checkrail for additional protection against air and water penetration.

Hardware

Two die-cast self-latching cam locks and keeper are assembled onto each operable sash for weatherability and security. Windows less than 30" in height require one cam lock and keeper. Sash release latches are secured to sash to allow tilt in and lift out of operating sash for ease of cleaning. Tandem brass rollers located on bottom of sash allow for smooth effortless opening and closing of sash. Full length sash pull handles are extruded into the interior glazing stop profile. Standard profile color is white.

Hardware Options

Note: Limit sash opening features are available. Consult your North Star Sales Consultant for details.

Screen

North Star screens are roll formed from heavy .021" thick aluminum coil flatstock and screened with anti-glare fiberglass cloth. Screen frame has nylon injection molded corner key with pull tab. Screen frame is available in white.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

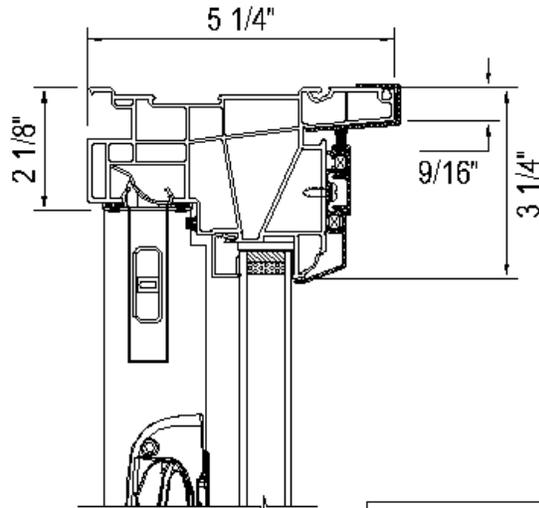
North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

Egress

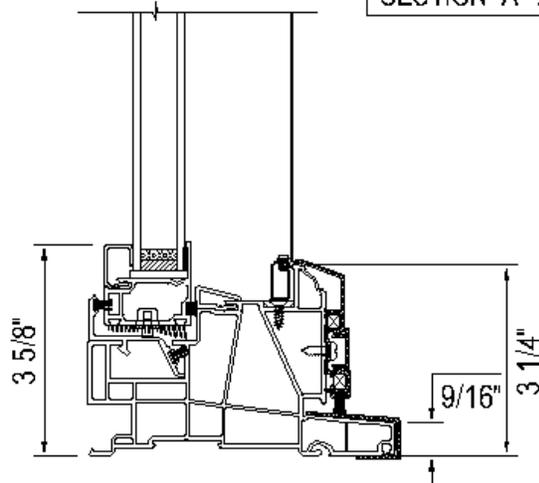
Consult local building codes to verify that the window ordered meets or exceeds egress requirements for your area. Special egress hardware is available for single slider liftout windows that enable narrow sizes to meet egress codes.

5372 Single Slider Liftout Window Details

HEAD DETAIL

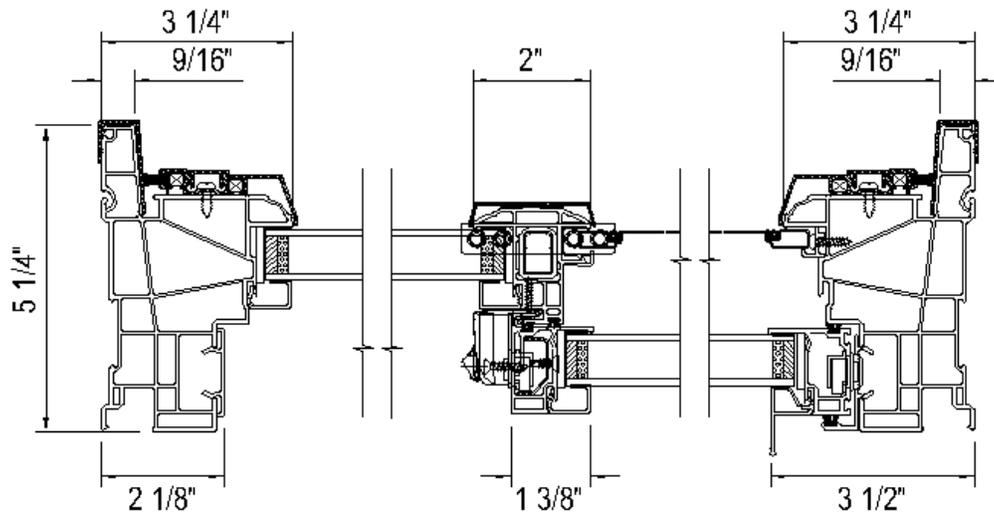
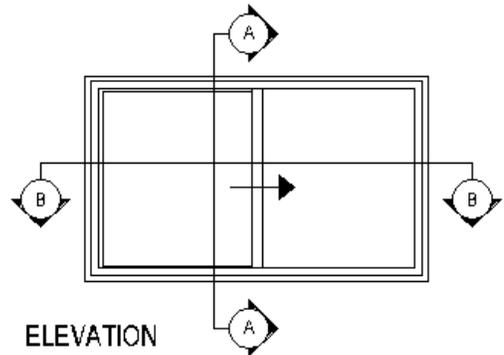


SECTION A - A



SILL DETAIL

CAN/CSA A440-00	
Air: A3/Fixed	
Water: B4	
Structural: C4	
Screen: S1	
Forced Entry: F20	
<hr/>	
DP Rating: R-PG60-HS	
Water Resistance (psf): 620 (12.75)	
Air Infiltration/Exfiltration: A3	



JAMB DETAIL

SECTION B - B

JAMB DETAIL

5377 Hybrid Picture Window (Singles Frame)

SPECIFICATIONS

Frame

Combined frame and stop profiles are extruded from virgin PVC powder material. Frames are multi-chamber design for strength and energy efficiency. Frame is fusion welded ensuring a water and airtight seal as well as maximum strength and squareness. Frames incorporate hidden exterior accessory groove and an integrated wood/drywall return on interior. Frames are a full 5 ¼" depth. A contemporary extruded, aluminum architectural design with crimped and keyed aluminum corners is applied over the exterior vinyl frame.

Note: Profiles are designed to match sliding window profiles.

Insulated Glass

Double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 1/2" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of frame with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of frame against flexible vinyl fin weather-strip co-extruded to exterior edge of frame. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Profiled exterior frame edge and profiled interior glass stop have co-extruded flexible vinyl fin weather-strip which seals against exterior and interior glass faces.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish on the interior and exterior.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. Contoured 5/8" wide grilles are available in white only. 5/8" wide flat grilles are also available in pewter.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

Accessories

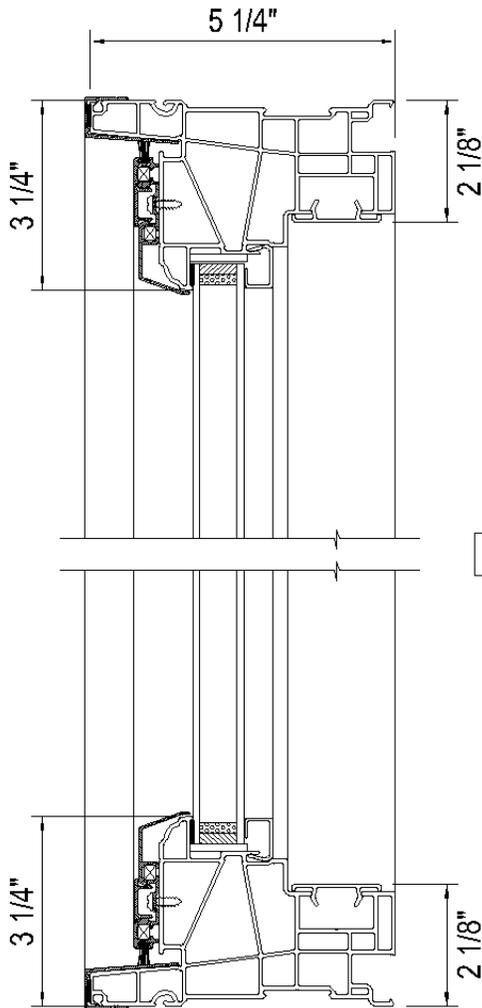
North Star offers a variety of vinyl accessories such as folding nailing fin, brickmolds, couplers and jamb extensions.

Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

5377 Hybrid Picture Window (Singles Frame) Details

HEAD DETAIL



SECTION A - A

CAN/CSA A440-00

Air: Fixed

Water: B7

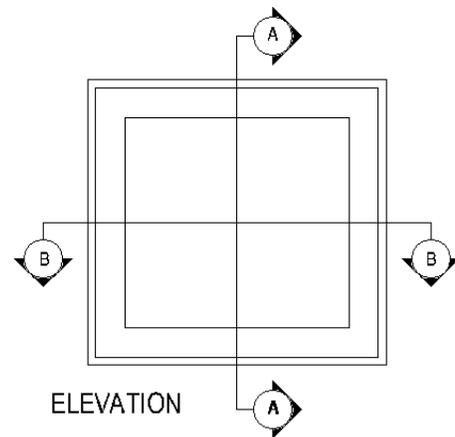
Structural: C3

Forced Entry: N/A

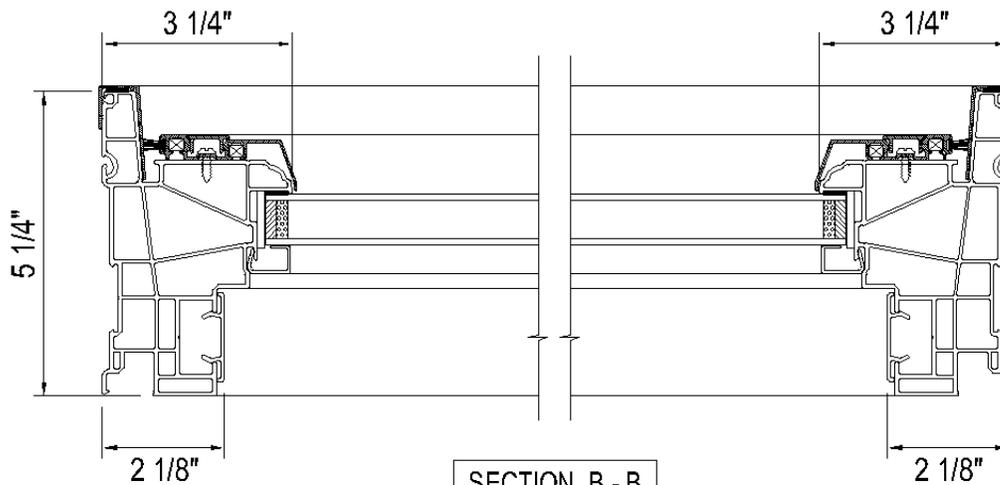
DP Rating: CW-PG45-FW

Water Resistance (psf): 730 (15.0)

Air Infiltration/Exfiltration: Fixed



SILL DETAIL



SECTION B - B

JAMB DETAIL

JAMB DETAIL

Maximum and Minimum Sizes

SIZE LIMITATIONS (5000 HYBRID SERIES)			
Window Type		Minimum Overall Size	Maximum One Way
5071 Hybrid Picture (No Sash)	Double Glazed	10" x 10"	132" or 40 sq. ft. *
	Triple Glazed	N/A	130" or 30 sq. ft.
5072 Hybrid Picture (With Sash)	Double Glazed	12" x 12"	132" or 40 sq. ft. *
	Triple Glazed	N/A	130" or 30 sq. ft.
5171 Hybrid Casement	Double Glazed	15-3/4" x 17"	Max. 108 U.I (width plus height) Width cannot be greater than 36" Height cannot be greater than 78"
	Triple Glazed	15-3/4" x 17"	Max. 98 U.I (width plus height) Width cannot be greater than 36" Height cannot be greater than 78"
5173 Hybrid Awning	Double Glazed	21" x 15-3/4"	Max. 108 U.I (width plus height) Width cannot be greater than 60" Height cannot be greater than 48"
	Triple Glazed	21" x 15-3/4"	Max. 96 U.I (width plus height) Width cannot be greater than 60" Height cannot be greater than 48"
5371 Hybrid Single Hung Tilt	Double Glazed	13" x 21"	Max. 120 U.I (width plus height) Width cannot be greater than 48" Height cannot be greater than 78"
	Triple Glazed	13" x 21"	Max. 104 U.I (width plus height) Width cannot be greater than 42" Height cannot be greater than 78"
5372 Hybrid Single Slider Lifout	Double Glazed	22" x 13"	Max. 132 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 60"
	Triple Glazed	22" x 13"	Max. 114 U.I (width plus height) Width cannot be greater than 78" Height cannot be greater than 54"
5377 Hybrid Picture (Singles Frame)	Double Glazed	13" x 13"	132" or 40 sq. ft. *
	Triple Glazed	N/A	30 sq. ft.

***Some glass options will have other size restrictions**

North Star Egress Windows – CANADA – 5000 Series

STYLE #5171 – CASEMENT (STANDARD HARDWARE)				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq.ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
25 5/8"	21 5/8"	25 5/8" x 41 3/4"	- 10 5/8"	- 5 1/4"
STYLE #5171 – CASEMENT (*EGRESS HARDWARE)				
23"	20 1/4"	23" x 41 3/4"	- 8"	- 5 1/4"

STYLE #5371 – SINGLE HUNG TILT				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq.ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
22"	48"	34" x 58 5/8"	- 7"	(x.5) - 9"

STYLE #5372 – SINGLE SLIDER LIFTOUT				
Min. Width Frame	Min. Height Frame	Example Window Size 3.8 sq.ft. opening	Formula <i>(Use this formula to determine sq. footage of an opening)</i>	
			Width	Height
42 1/2"	22"	53 1/8" x 34"	(x.5) - 6 1/4"	- 7"

Please Note:

Opening sizes shown are based on standard manufacturing allowance opening of the sashes.

Vertical and horizontal sliding windows may be altered by trimming the vinyl sash stops to meet minimum openings or square footage requirements. Consult your North Star Representative.

All operators which slide are calculated with 50/50 split.

Opening sizes decrease when CMR is off-centered.

When calculating sizes other than the examples shown, use the formula to determine the size of the opening. Windows cannot be smaller than the minimum widths and heights shown.

e.g. – Casement window 28(w) x 40(h)

28(w)-9 13/16"=18 3/16" 40(h)-4 3/4"-35 1/4" with standard hardware

18 3/16 x 35 1/4"/144=4.45 sq. ft. opening

North Star Egress Windows – UNITED STATES – 5000 Series

STYLE #5171 – CASEMENT (STANDARD HARDWARE)					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq.ft. opening)	2 nd Floor (5.7 sq.ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
30 5/8"	29 1/4"	28" x 47"	29 5/8" x 48 1/2"	- 10 5/8"	- 5 1/4"
STYLE #5171 – CASEMENT (*EGRESS HARDWARE)					
28"	29 1/4"	25 3/8" x 47"	27" x 48 1/2"	- 8"	- 5 1/4"

STYLE #5371 – SINGLE HUNG TILT					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq.ft. opening)	2 nd Floor (5.7 sq.ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
27"	66"	37" x 66"	40" x 68"	- 7"	(x.5) - 9"

STYLE #5372 – SINGLE SLIDER LIFTOUT					
Min. Width Frame	Min. Height Frame	Example Window Size		Formula	
		1 st Floor (5.0 sq.ft. opening)	2 nd Floor (5.7 sq.ft. opening)	<i>(Use this formula to determine sq. footage of an opening)</i>	
				Width	Height
52 1/2"	31"	66" x 34"	66" x 37 3/4"	(x.5) - 6 1/4"	- 7"

Please Note:

Opening sizes shown are based on standard manufacturing allowance opening of the sashes.

Vertical and horizontal sliding windows may be altered by trimming the sash stops to help meet minimum openings or square footage requirements. Consult your North Star Representative.

All operators which slide are calculated with 50/50 split.

Opening sizes decrease when CMR is off-centered.

When calculating sizes other than the examples shown, use the formula to determine the size of the opening. Windows cannot be smaller than the minimum widths and heights shown.

e.g. – Casement window 30(w) x 40 1/2(h)

$$30(w) - 9 \frac{13}{16} = 20 \frac{7}{16} \quad 40 \frac{1}{2}(h) - 4 \frac{3}{4} = 34 \frac{3}{4}$$

$$20 \frac{7}{16} \times 35 \frac{3}{4} = 721.70 \div 144 = 5.01 \text{ sq. ft. opening}$$

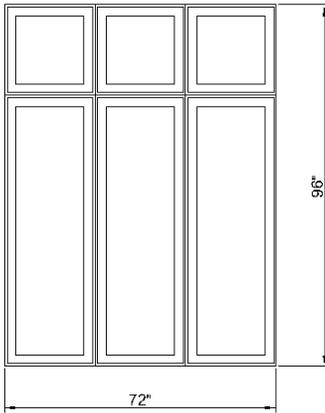
Coupling Size Restrictions

When coupling multiple windows together, caution must be used not to weaken the structural integrity of the window grouping.

The general rule of thumb is to restrict any window coupling to a maximum of 180 U.I. (united inches).

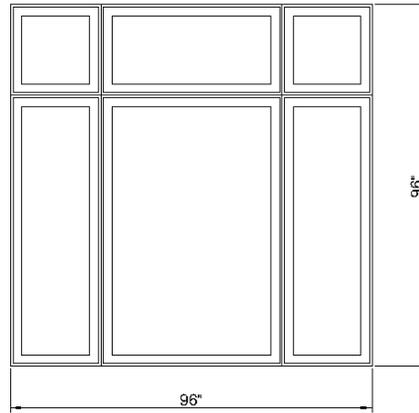
For window couplings of over 180 U.I, the use of North Star's timberstrand mullion reinforcement is recommended (refer to examples below).

EXAMPLE #1



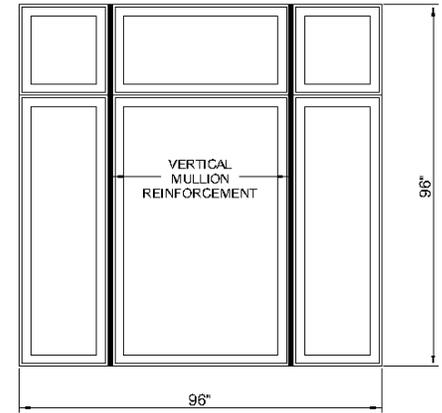
168 U.I.
(APPROVED)

EXAMPLE #2



192 U.I.
(NOT APPROVED) MULLION REINFORCEMENT
REQUIRED

EXAMPLE #3



(APPROVED)

Large factory assembled patterns may require that the glass or sashes be shipped loose. If the delivery is going to a location that has a loading dock level with the delivery trailer, the size parameters differ. Please see the chart near the end to determine if parts need to be shipped loose.

Assemblies will be shipped with sashes loose as the preferred method. If there are no operators, or if the sash removal does not lighten the assembly sufficiently, then the glass for picture windows will be shipped loose. If windows on the ends are operators and the center lites are picture windows, we will not ship with sashes loose and picture glass installed.

Double glazed patterns over 55 sq. ft. and triple glazed patterns over 38 sq. ft. without exterior or interior accessories must be shipped unassembled.

Ship sashes or glass loose when total assembly size exceeds the following chart:

Assembly Type	With Loading Dock or Common Carrier	At a Jobsite or Without Loading Dock
Regular Windows D/G	75 sq. ft.	55 sq. ft.
Regular Windows T/G	75 sq. ft.	38 sq. ft.
Bay Windows D/G*	75 sq. ft.	55 sq. ft.
Bay Windows T/G*	75 sq. ft.	38 sq. ft.
Bow Windows D/G*	75 sq. ft.	55 sq. ft.
Bow Windows T/G*	75 sq. ft.	38 sq. ft.

*Calculate bays and bows without head and seat as regular windows

Patio Door

SPECIFICATIONS

Frame and Sash

All frame and sash profiles are extruded by North Star Windows from virgin PVC powder material. Frames and sash are multi-chamber design for strength and energy efficiency. Extruded frame is mechanically fastened at corners and sealed with one-sided adhesive backed closed cell polyethylene gaskets. The door frame's low profile sill is fitted with an extruded anodized aluminum screen track. Extruded sash are fusion welded ensuring a water and airtight seal. Sash is metal reinforced providing superior rigidity. Frames are a full 5 5/8" in depth.

Insulated Glass

3mm tempered double or triple insulating glass with Edgetech silicone foam low conductive S-Class Super Spacer®. Pilkington Energy Advantage™ Low E (hard coat) glass is standard. Cardinal LoE³-366® (soft coat) glass is optional as well as Pilkington Activ™ Self-Cleaning glass. Laminated glass is available consisting of 3mm glass, 3/8" airspace and two 3mm glass panes with a .030" clear interior membrane in-between. Heavy inert argon or krypton gas is optional for the air space between the glass panes. White mini blinds that raise, lower and tilt are also available between the glass panes.

Glazing

Insert neoprene setting blocks around perimeter of sash with application of silicone toe bead sealant to interior glazing cavity to stabilize glass movement. Furnish laid in insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash. Install interior glazing stops with flexible co-extruded vinyl fin weather-strip against interior glass face.

Weather-Stripping

Triple weather-strip comprising of two water repellant pile weather-strips with stiff fin type vapor barrier and one bulb type compression gaskets are located at lock side jamb. Two water repellant pile weather-strips with stiff fin type vapor barrier are located on door frame at head as well as on bottom of sliding sash and at interlocking vertical checkrail. Anti-lift block with wool pile weather-strip is fastened at the frame head. A closed cell foam pad is located at bottom of lock side jamb.

Hardware

Opening panel is equipped with two tandem roller assemblies with noise and friction reducing nylon rollers with stainless steel ball bearings. Single point (keyless) lock and keeper are standard in white or black. Deluxe Pewter and Deluxe Brass lock hardware finish is optional.

Hardware Options

Multi-point lock hardware is available. Single point and multi-point locks are available with key cylinder. Security bolt or security bar hardware is available for extra security.

Screen

North Star heavy duty extruded aluminum screen frame with adjustable steel rollers, screened with anti-glare fiberglass cloth. Screen frame is available in white and North Star's seven standard exterior colors.

Exterior and Interior Finishes

North Star standard vinyl extrusion has a clean, bright, white smooth finish. Seven North Star exterior textured color finishes (ivory, chestnut brown, cocoa, hickory, sandalwood, sable and espresso) and two interior wood grains (Kolonial Oak and Stainable/Paintable Pine) are optional. Exterior color and interior wood grain are applied PVC laminate film with an acrylic overlay for exceptional UV protection. Exterior laminate is 200µm (microns) thick. Special option: espresso interior laminate combined with espresso exterior laminate is available for patio doors.

Grilles

Windows may be enhanced with North Star 5/16" narrow and 5/8" wide flat rectangular or 5/8" wide contoured grilles between the glass panes. 5/16" narrow grilles are available in white, pewter and brass. A combination of white or wood grain interior and colored exterior is optional for 5/8" wide flat grilles. 5/8" wide flat grilles are available in pewter, white or black on all sides. Contoured 3/4" wide grilles are optional in white or white/colored exterior.

Divided Lites

Classic simulated divided lites (SDL) are also available. SDL grilles are available in 7/8" and 2" widths. Standard SDL comes without airspace grille. Optional 1/4" X 5/16" pewter airspace grilles are available on double glazed units only. SDL grille bars are permanently applied to the interior and exterior glass surface.

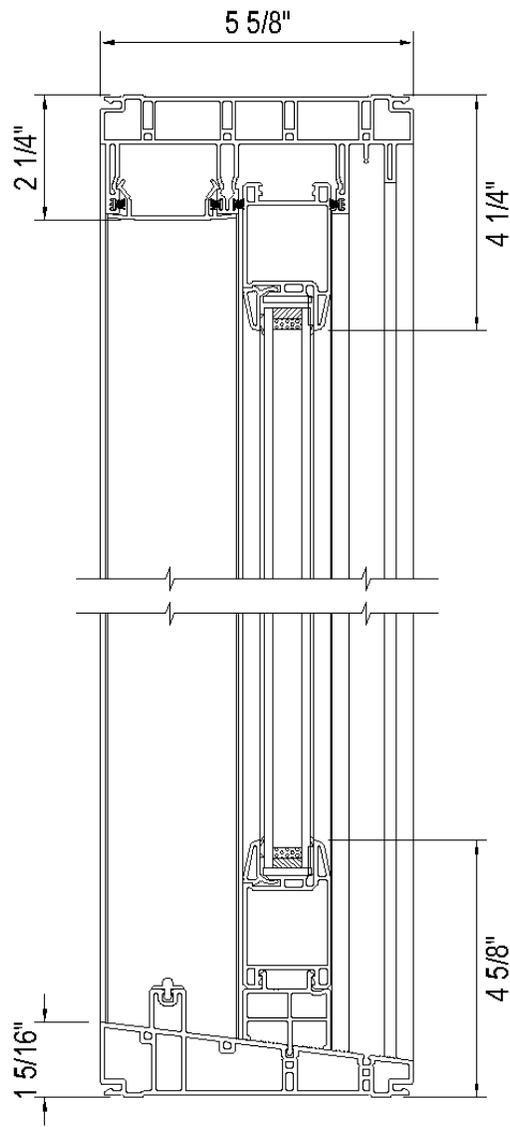
Accessories

North Star offers a variety of vinyl accessories such as nailing fin, brick molds, drywall/wood return, couplers and jamb extensions.

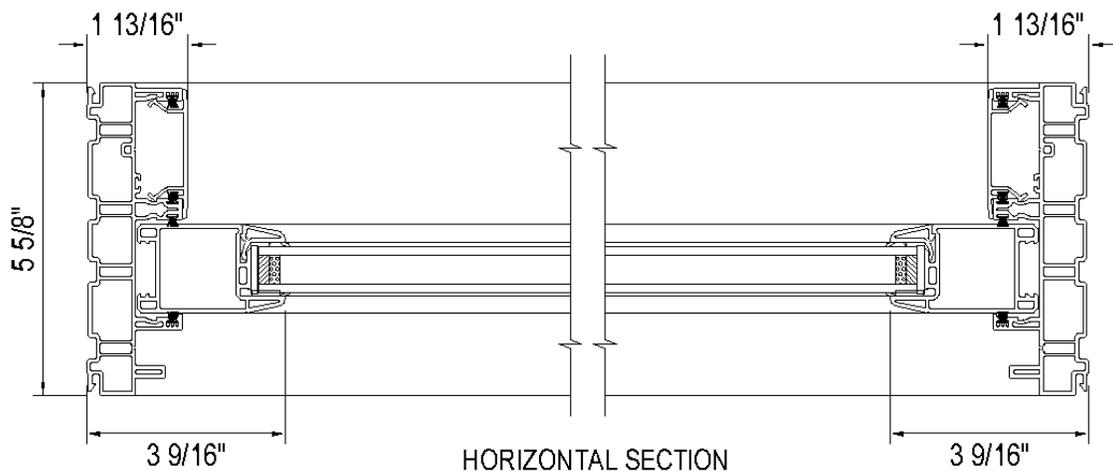
Standards

North Star windows have been tested by an independent laboratory for air, water, structural and thermal performance requirements.

3310 Patio Door Sidelite Details

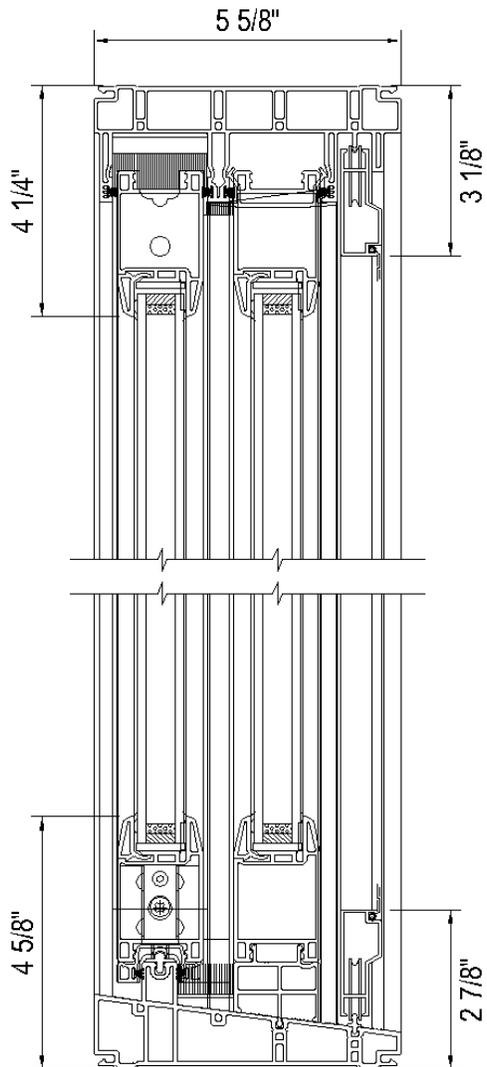


VERTICAL SECTION

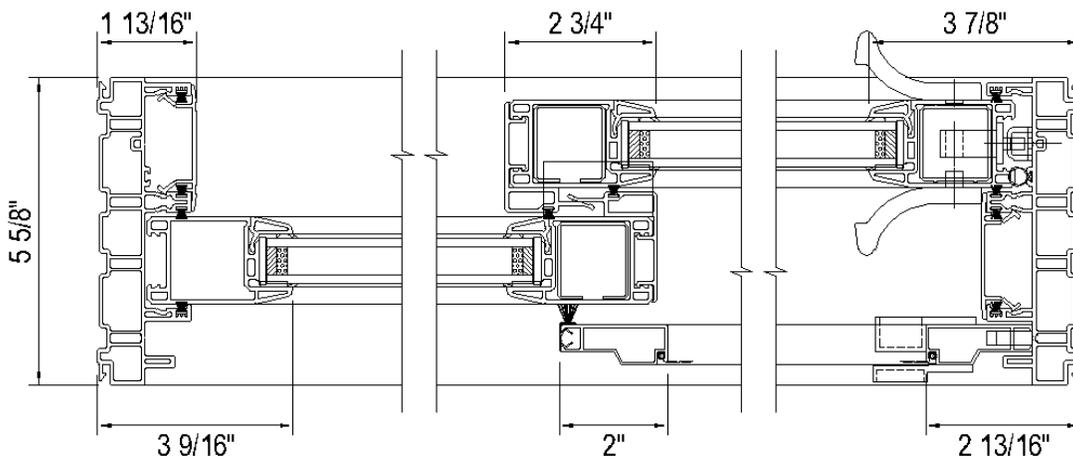


HORIZONTAL SECTION

3320 2-Panel Patio Door Details

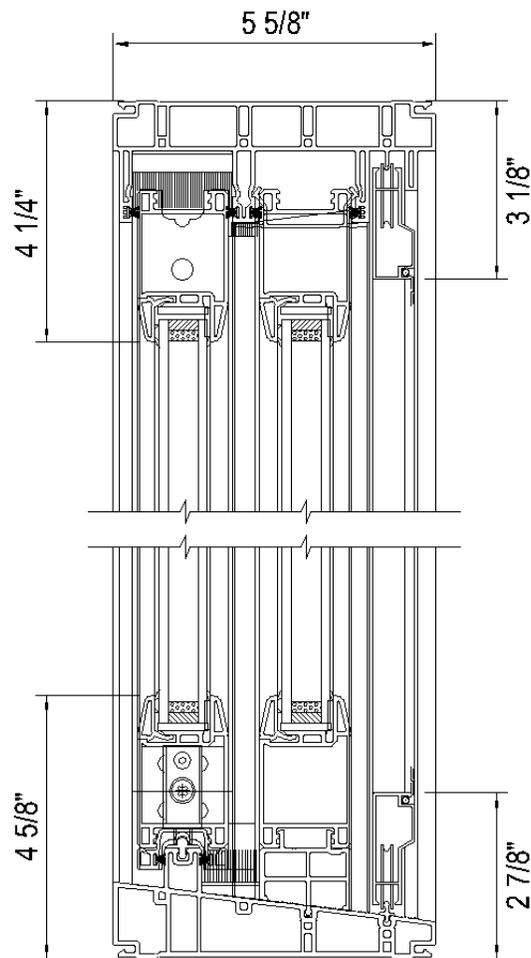


VERTICAL SECTION

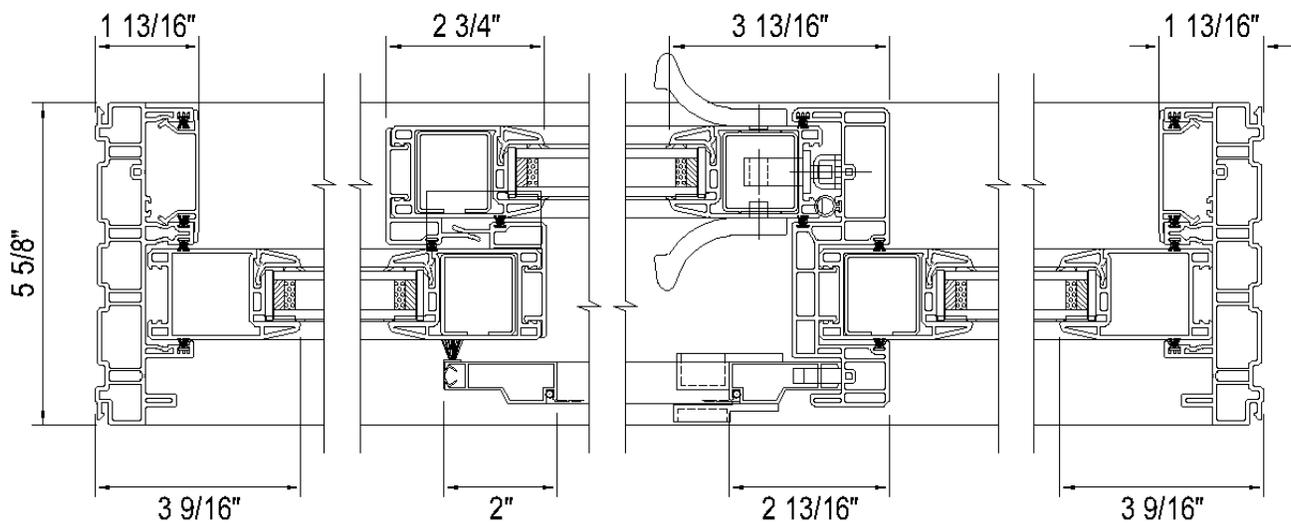


HORIZONTAL SECTION

3330 3-Panel Patio Door Details

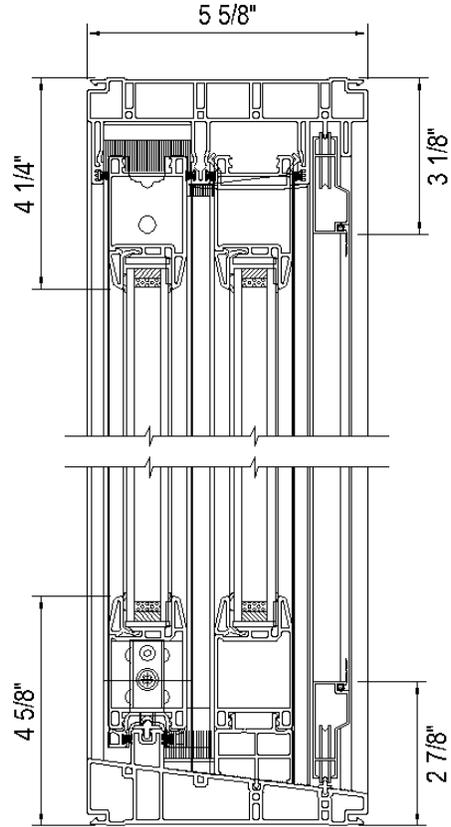


VERTICAL SECTION

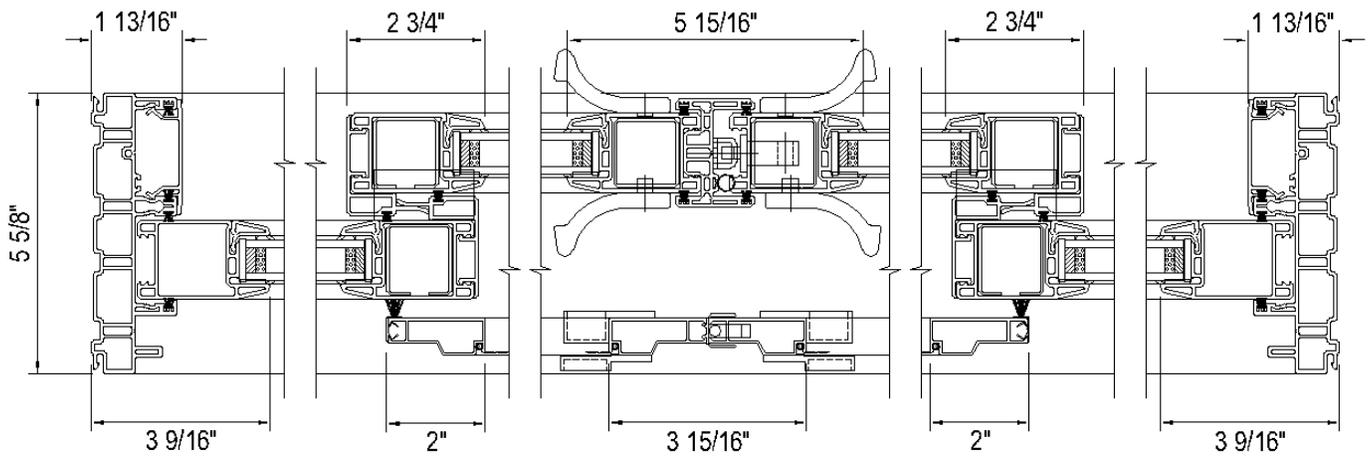


HORIZONTAL SECTION

3340 4-Panel Patio Door Details

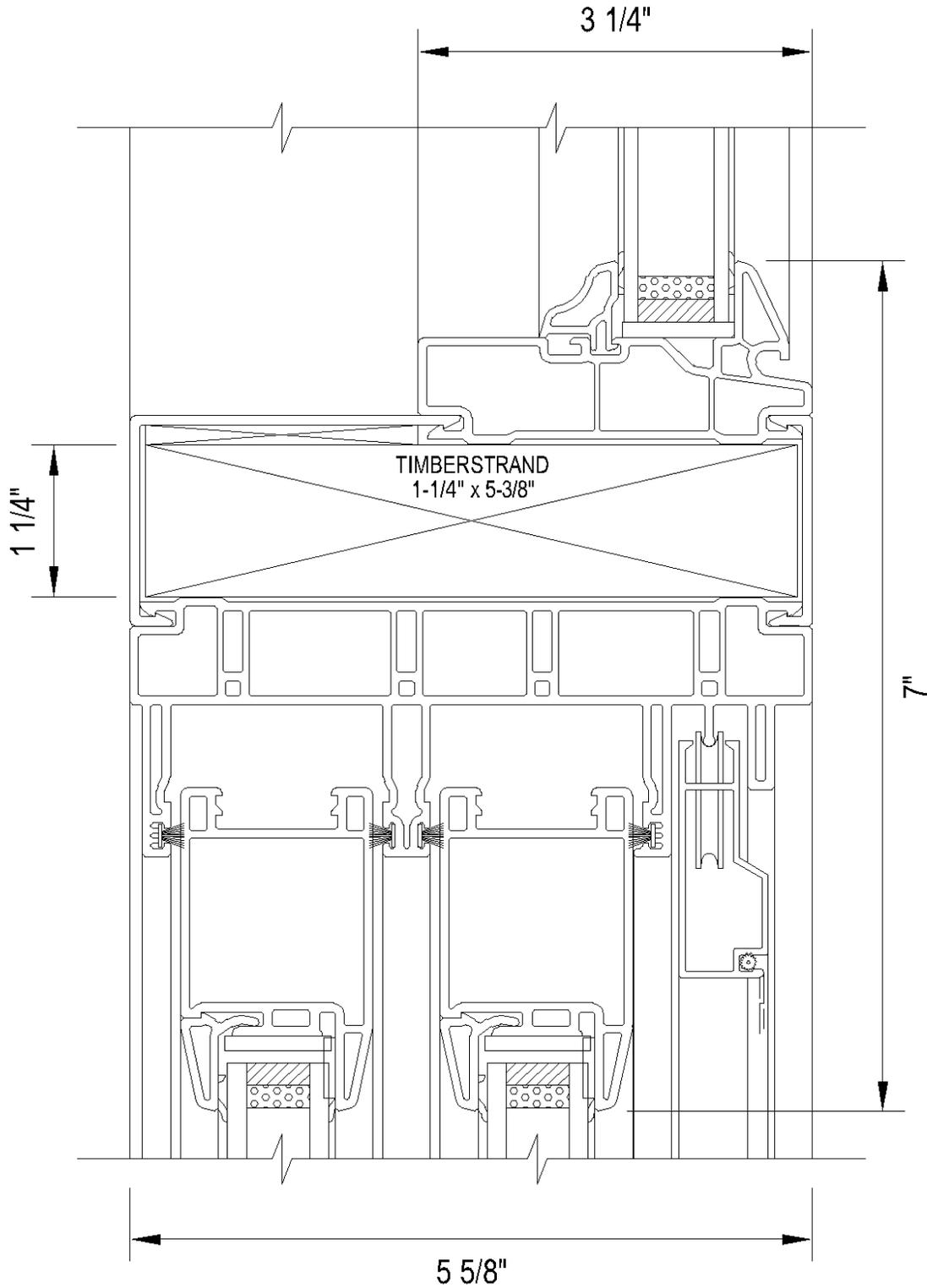


VERTICAL SECTION

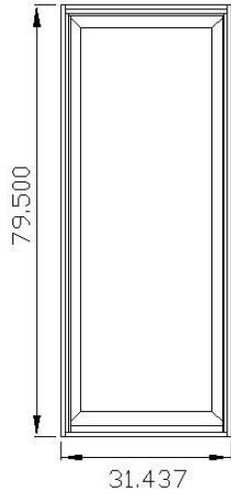


HORIZONTAL SECTION

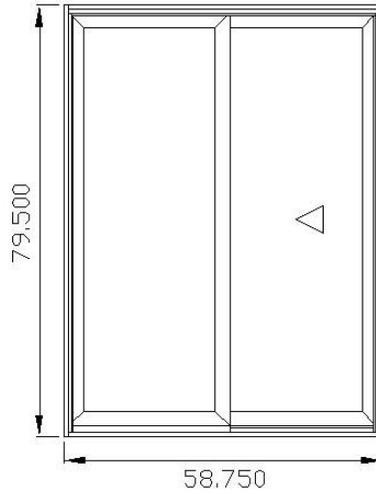
3300 Vinyl Patio Door - Reinforced Transom Assembly



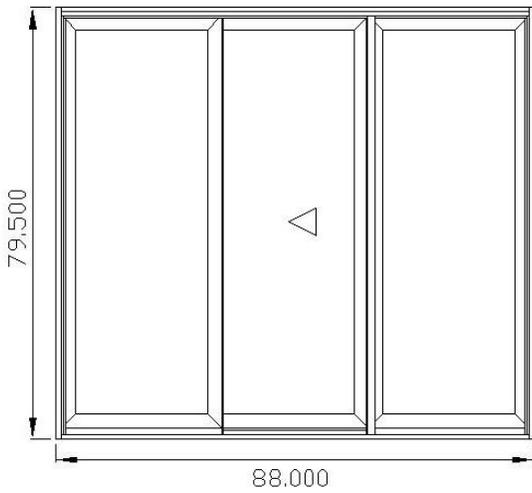
North Star Standard Height (79-1/2") Patio Doors



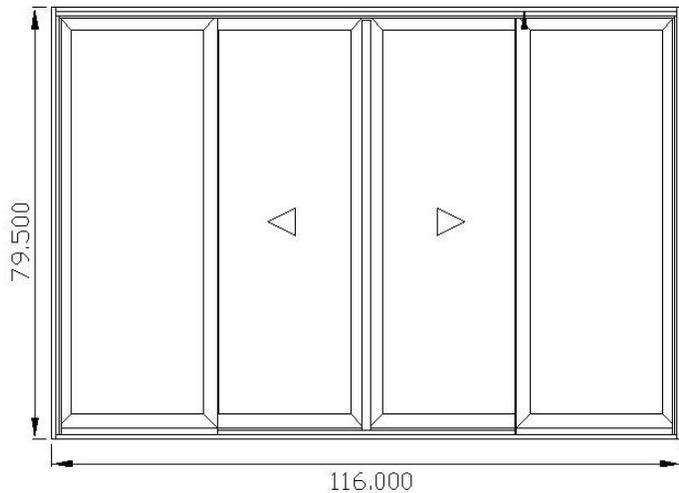
5'-0" NOMINAL,
STANDARD HEIGHT,
SIDE LITE, (O)



5'-0" NOMINAL, 2-PANEL,
STANDARD HEIGHT, (OX)

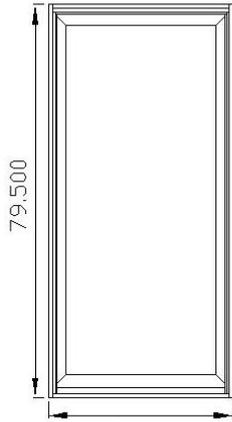


7-½' NOMINAL, 3-PANEL,
STANDARD HEIGHT, (OXO)

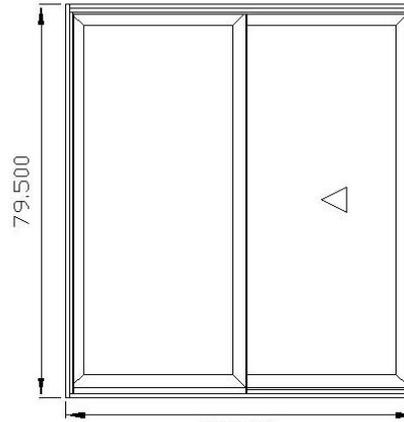


9-½' NOMINAL, 4-PANEL,
STANDARD HEIGHT, (OXXO)

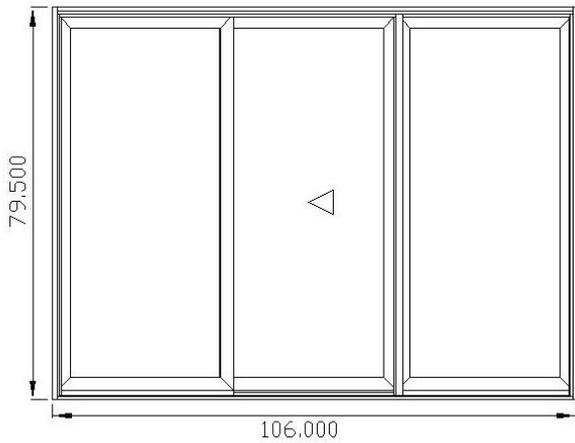
North Star Standard Height (79-1/2") Patio Doors



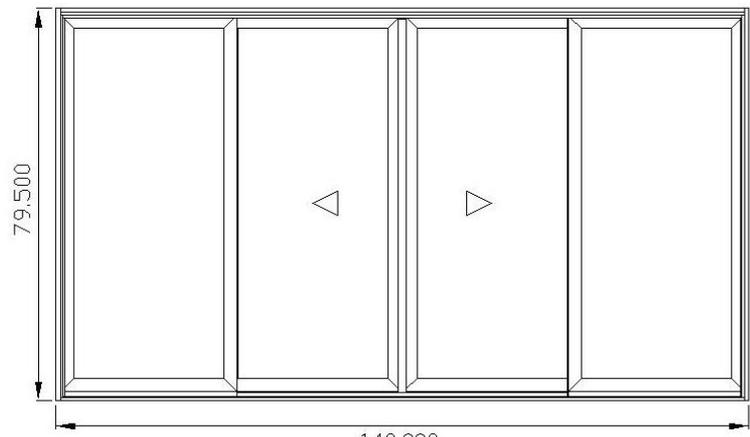
37.437
6'-0" NOMINAL,
STANDARD HEIGHT,
SIDE LITE, (O)



70.750
6'-0" NOMINAL, 2-PANEL,
STANDARD HEIGHT, (OX)

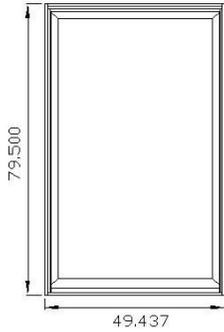


106.000
9'-0' NOMINAL, 3-PANEL,
STANDARD HEIGHT, (OXO)

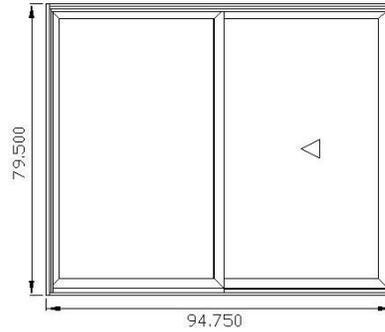


140.000
11-1/2' NOMINAL, 4-PANEL,
STANDARD HEIGHT, (OXXO)

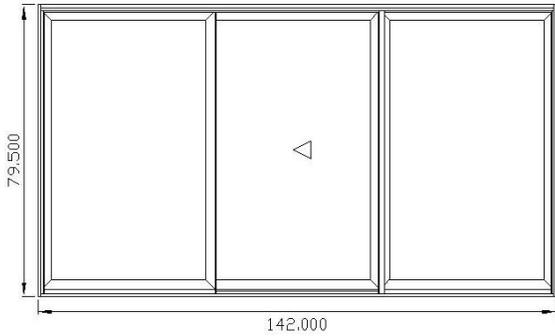
North Star Standard Height (79-1/2") Patio Doors



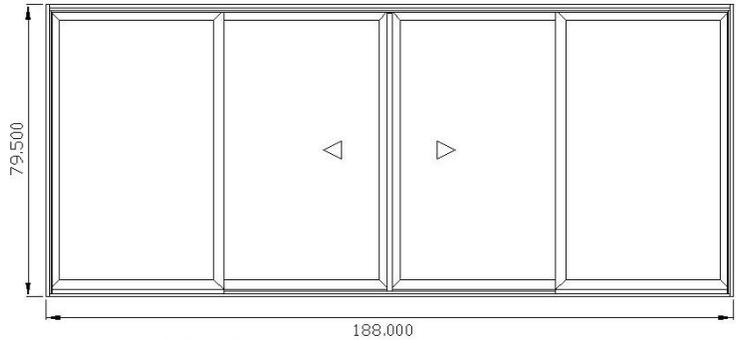
**8'-0" NOMINAL,
STANDARD HEIGHT,
SIDE LITE, (O)**



**8'-0" NOMINAL, 2-PANEL,
STANDARD HEIGHT, (OX)**

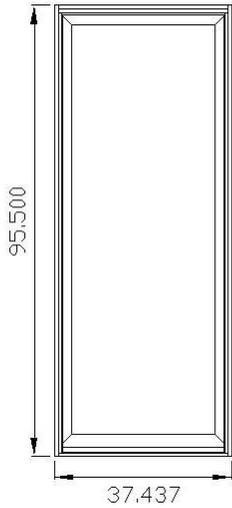


**12'-0' NOMINAL, 3-PANEL,
STANDARD HEIGHT, (OXO)**

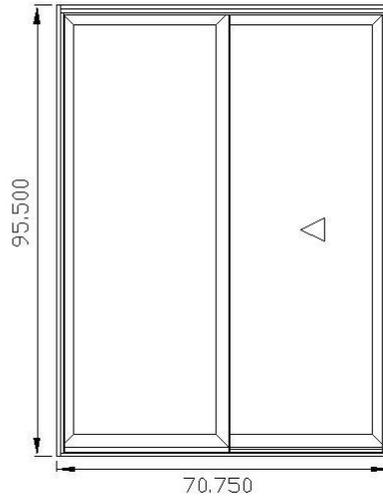


**15'-½' NOMINAL, 4-PANEL,
STANDARD HEIGHT, (OXXO)**

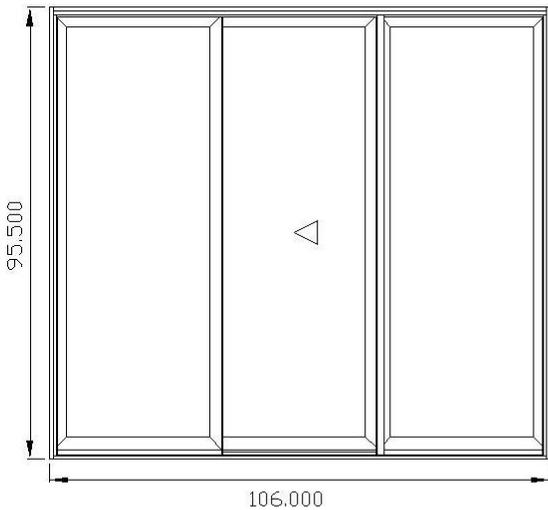
North Star Nominal (95-1/2") Height Patio Doors



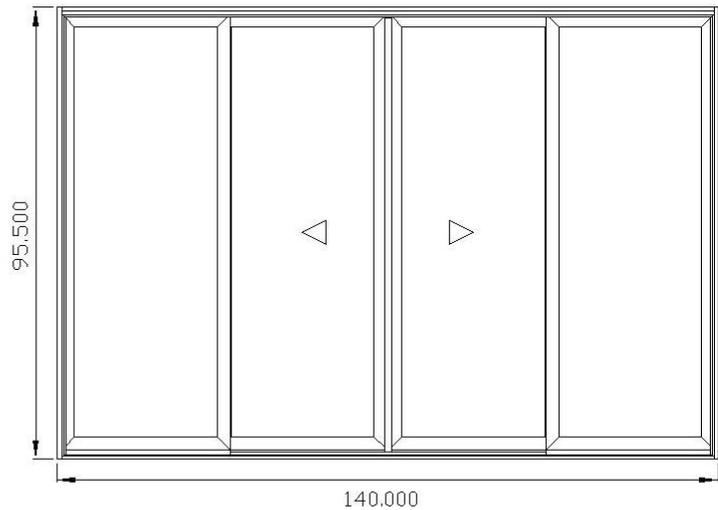
6'-0" NOMINAL,
8' HEIGHT,
SIDE LITE, (O)



6'-0" NOMINAL, 2-PANEL,
8' HEIGHT, (OX)

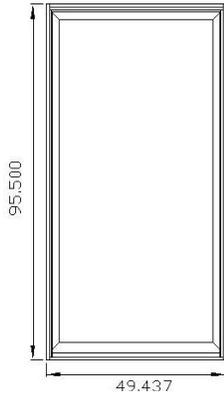


9'-0" NOMINAL, 3-PANEL,
8' HEIGHT, (OXO)

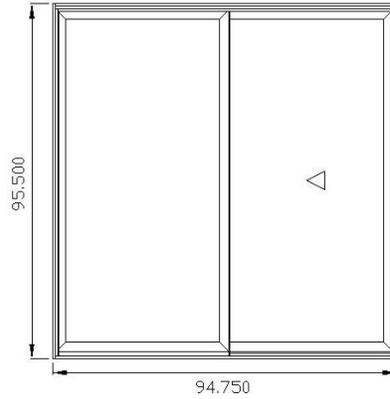


11-½' NOMINAL, 4-PANEL,
8' HEIGHT, (OXXO)

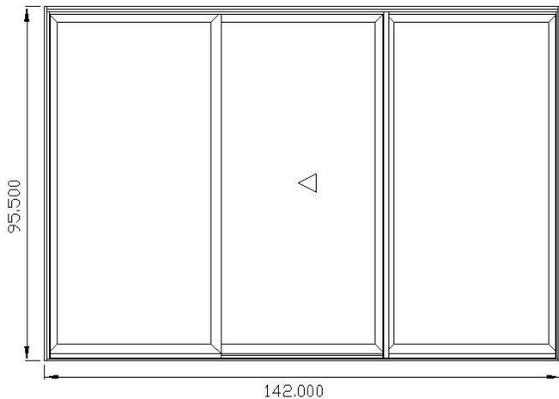
North Star Nominal (95-1/2") Height Patio Doors



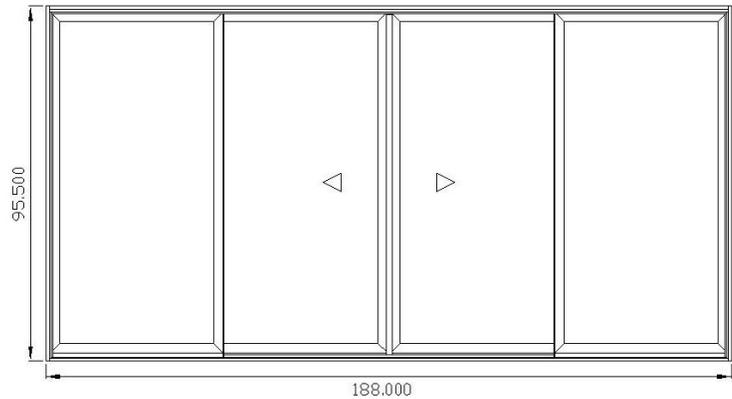
**8'-0" NOMINAL,
8' HEIGHT,
SIDE LITE, (O)**



**8'-0" NOMINAL, 2-PANEL,
8' HEIGHT, (OX)**



**12-0' NOMINAL, 3-PANEL,
8' HEIGHT, (OXO)**

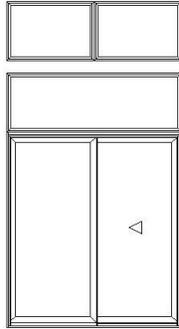


**15-1/2' NOMINAL, 4-PANEL,
8' HEIGHT, (OXXO)**

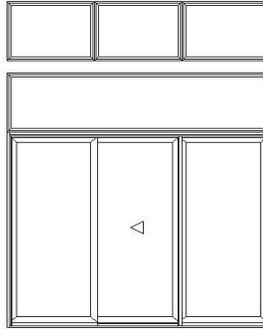
Patio Door Transoms



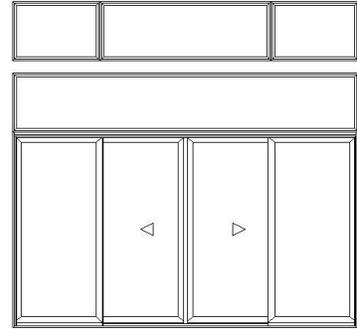
5' SIDE LITE
(31-7/16")



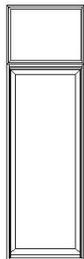
5' NOMINAL (58-3/4")



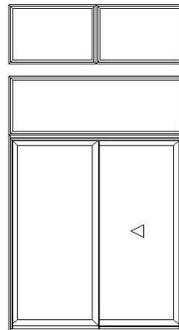
7-1/2' NOMINAL, 3-PANEL (88")



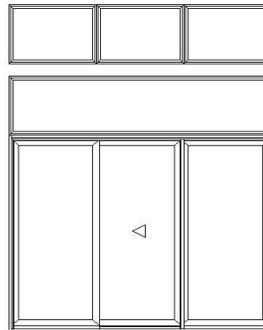
9-1/2' NOMINAL, 4-PANEL (116")



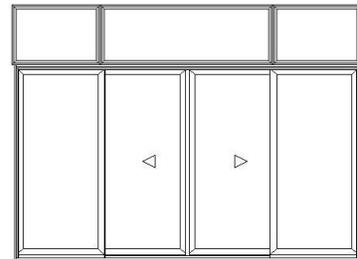
6' SIDE LITE
(37-7/16")



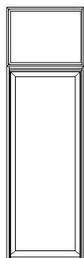
6' NOMINAL (70-3/4")



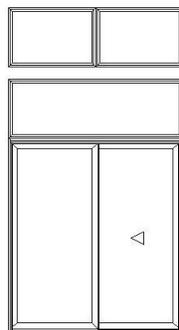
9' NOMINAL, 3-PANEL (106")



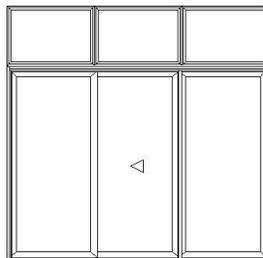
11-1/2' NOMINAL, 4-PANEL (140")



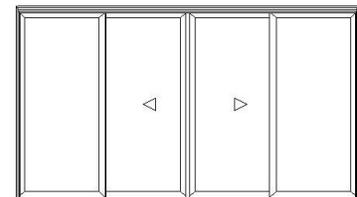
8' SIDE LITE
(49-7/16")



8' NOMINAL (94-3/4")



12' NOMINAL, 3-PANEL (142")



15-1/2' NOMINAL, 4-PANEL (188")

NOTE: 1-1/4" TIMBERSTRAND HORIZONTAL REINFORCEMENT REQUIRED BETWEEN PATIO DOOR AND TRANSOM

PRODUCT FEATURES and OPTIONS	Single Hung Tilt	Double Hung Tilt	Horizontal Sliding Window	Casement	Awning	Custom Shapes	Picture	Patio Doors
Exterior Colors								
White	●	●	●	●	●	●	●	●
Ivory	○	○	○	○	○	○	○	○
Chestnut Brown	○	○	○	○	○	○	○	○
Cocoa	○	○	○	○	○	○	○	○
Hickory	○	○	○	○	○	○	○	○
Sandalwood	○	○	○	○	○	○	○	○
Sable	○	○	○	○	○	○	○	○
Espresso	○	○	○	○	○	○	○	○
Interior Colors								
White	●	●	●	●	●	●	●	●
Stainable/Paintable Pine	○	○	○	○	○	○	○	○
Kolonial Oak	○	○	○	○	○	○	○	○
Espresso (Available only with espresso ext.)	N/A	N/A	N/A	○	○	○	○	○
Grilles								
5/16" Narrow								
Pewter on all Four Sides	○	○	○	○	○	○	○	○
Brass on all Four Sides	○	○	○	○	○	○	○	○
White on all Four Sides	○	○	○	○	○	○	○	○
5/8" Flat								
Pewter on all Four Sides	○	○	○	○	○	○	○	○
White on all Four Sides	○	○	○	○	○	○	○	○
Black on all Four Sides								
Split Finish Color Ext./White Int.	○	○	○	○	○	○	○	○
Split Finish White or Color Ext./Kolonial Oak Int.	○	○	○	○	○	○	○	○
3/4" Contour								
3/4" Contour White on All Four Sides	○	○	○	○	○	○	○	○
3/4" Contour Color Ext./White Int.	○	○	○	○	○	○	○	○
7/8" & 2" SDL With or Without Interior Grid	○	○	○	○	○	○	○	○

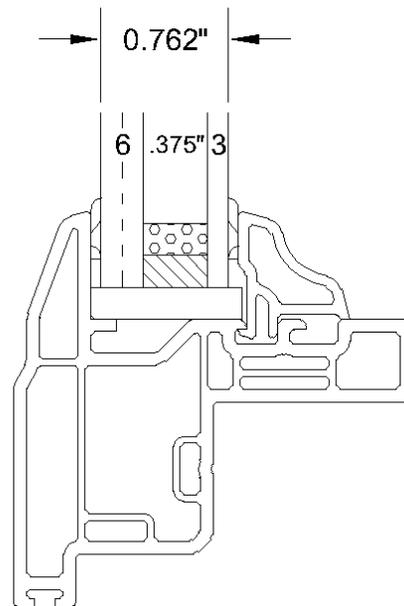
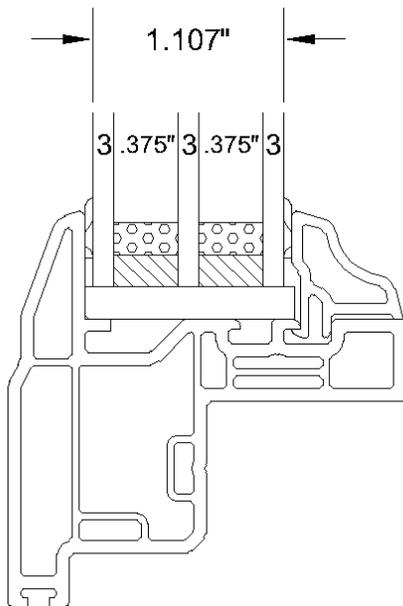
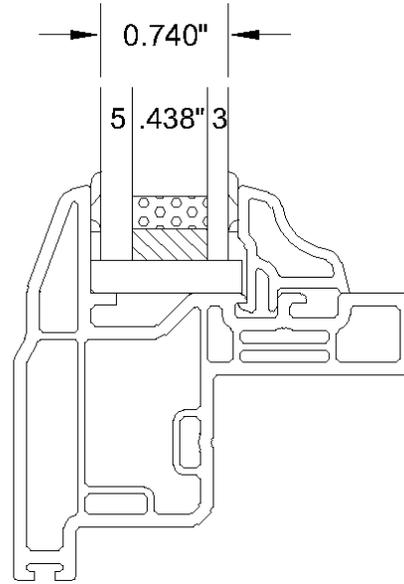
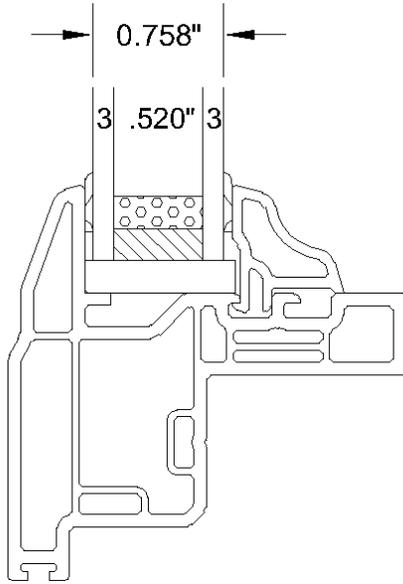
●STANDARD ○OPTIONAL



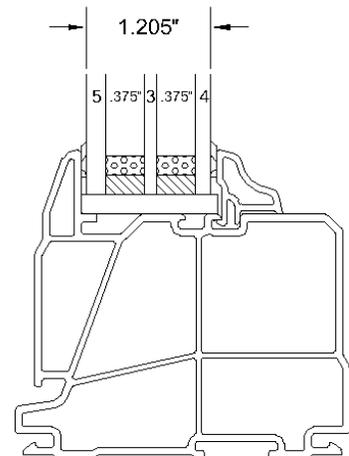
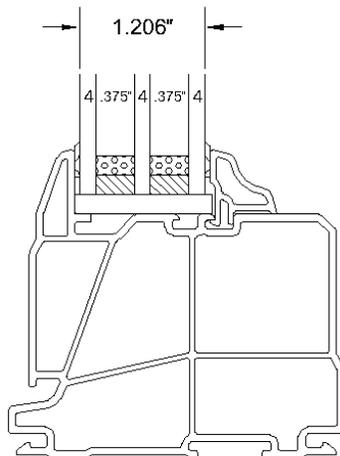
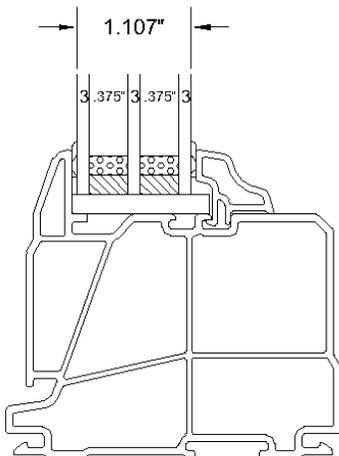
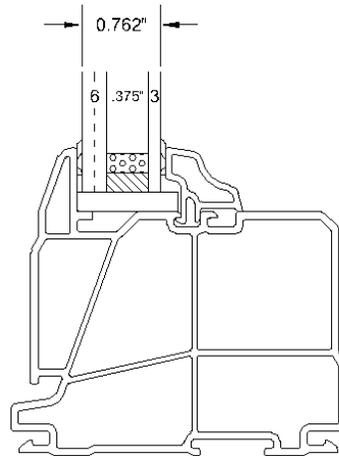
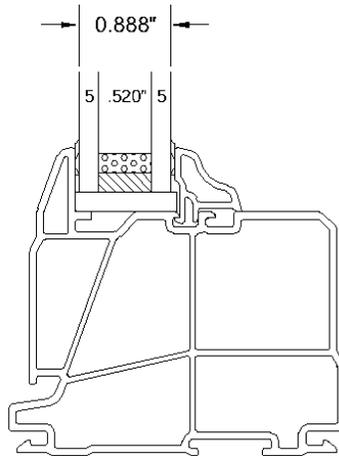
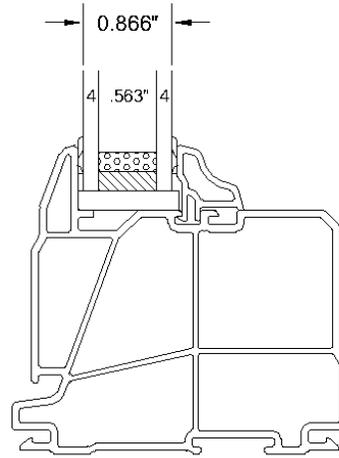
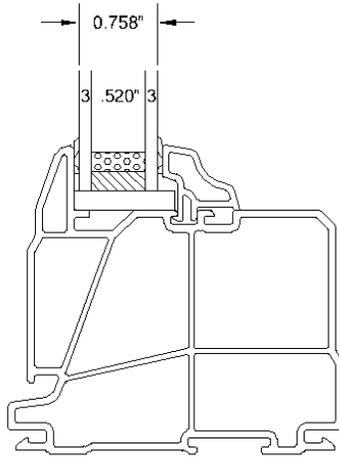
PRODUCT FEATURES and OPTIONS	Single Hung Tilt	Double Hung Tilt	Horizontal Sliding Window	Casement	Awning	Custom Shapes	Picture	Patio Doors
Hardware								
Maxim Hardware (Standard)				•	•			
Encore Folding Hardware				○	○			
Cam Locks (Standard)	•	•	•					
Auto Locks	○	○	○					
Single Point Lock								•
Single Point Lock with Key Lock								○
Multi-Point Lock								○
Multi-Point Lock with Key Lock								○
Security Bolt								○
Security Bar								○
Hardware Finish								
White	•	•	•	•	•	•	•	•
Faux Bronze (Standard with Kolonial Oak & Stainable/Paintable Int.)	○	○	○	○	○			
Black								○
Oil Rubbed Bronze (Encore only)				○	○			
Brushed Antique Chrome (Encore only)				○	○			
Satin Nickel (Encore only)				○	○			
Deluxe Brass								○
Deluxe Pewter								○

•STANDARD ○OPTIONAL

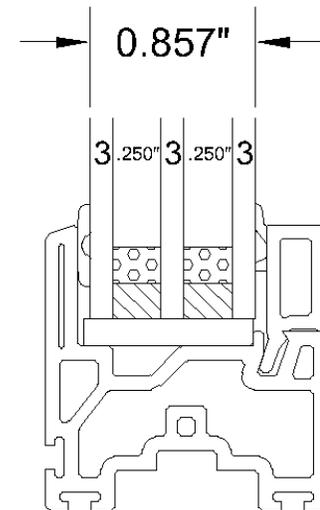
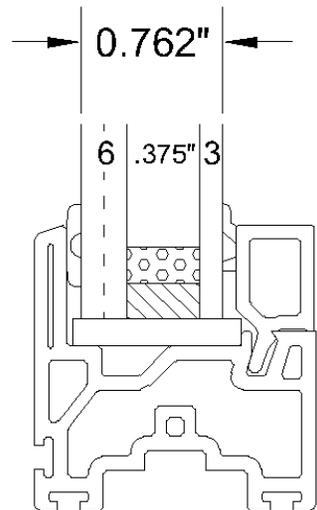
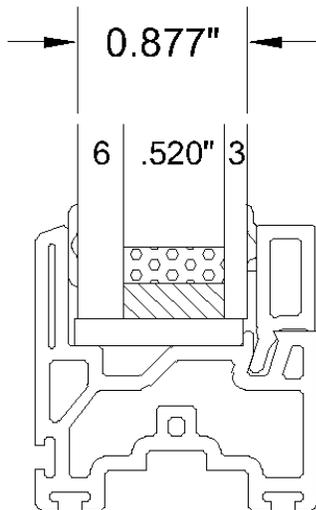
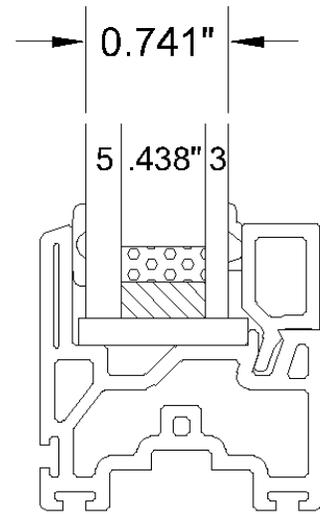
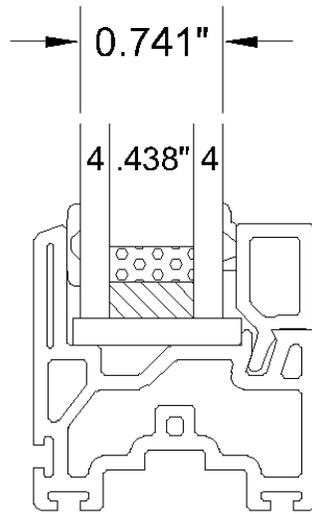
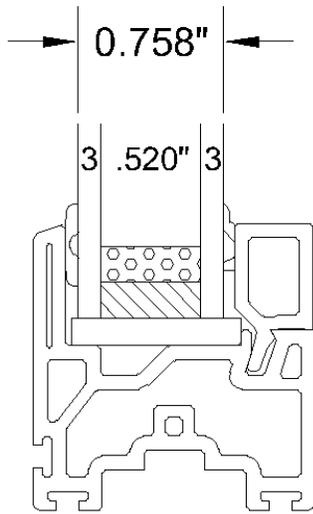
1000 Series - Casement/Awning Glazing Options



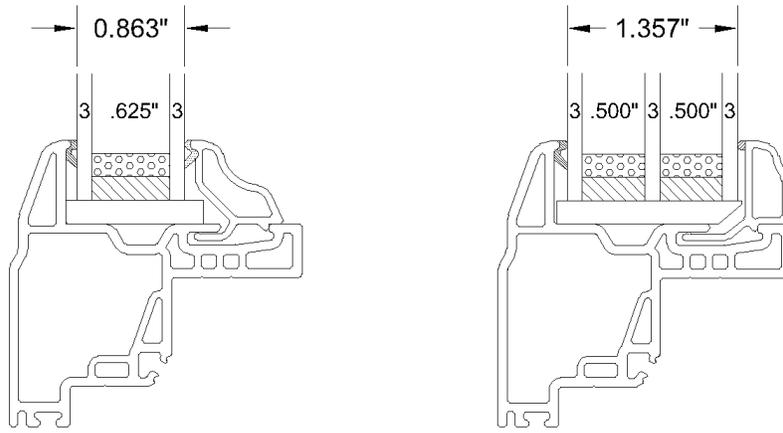
1000 Series - Picture Glazing Options



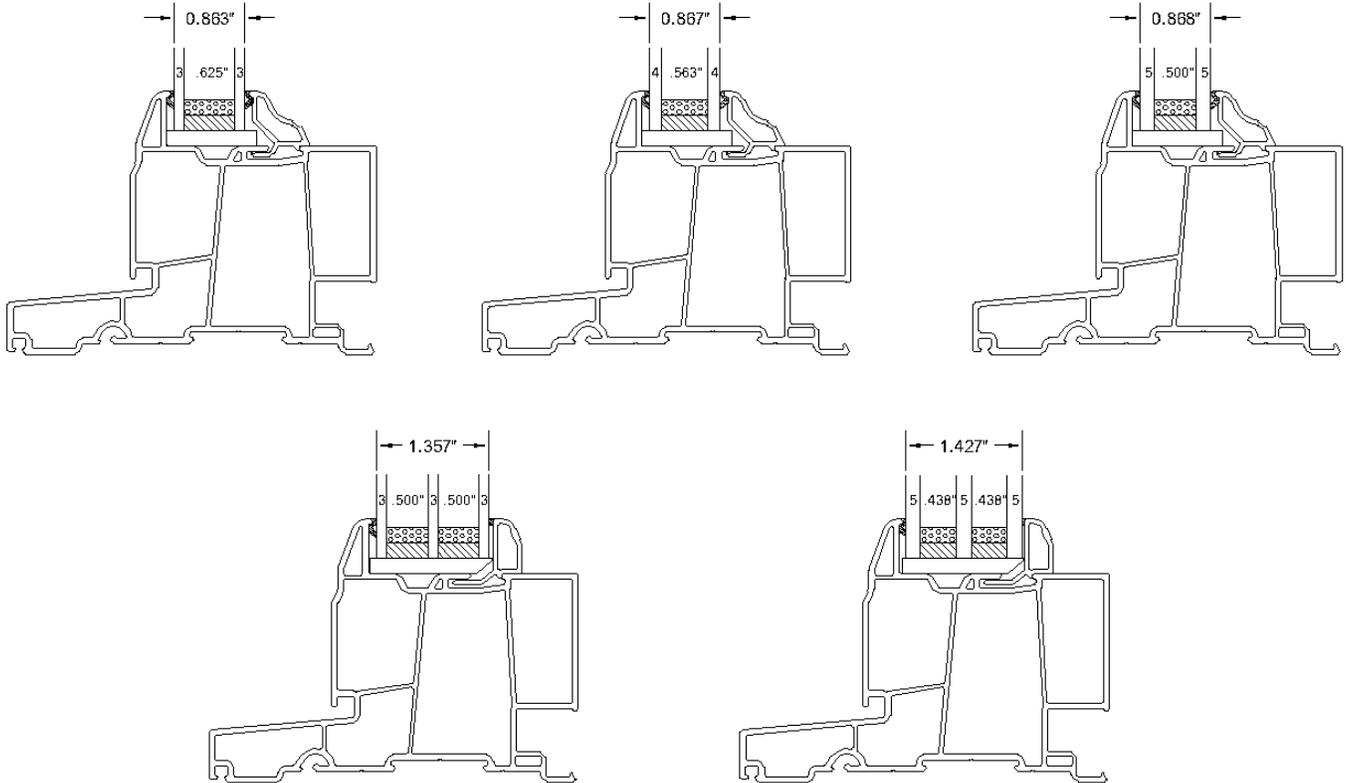
1000 Series - Single & Double Hung/Slider Glazing Options



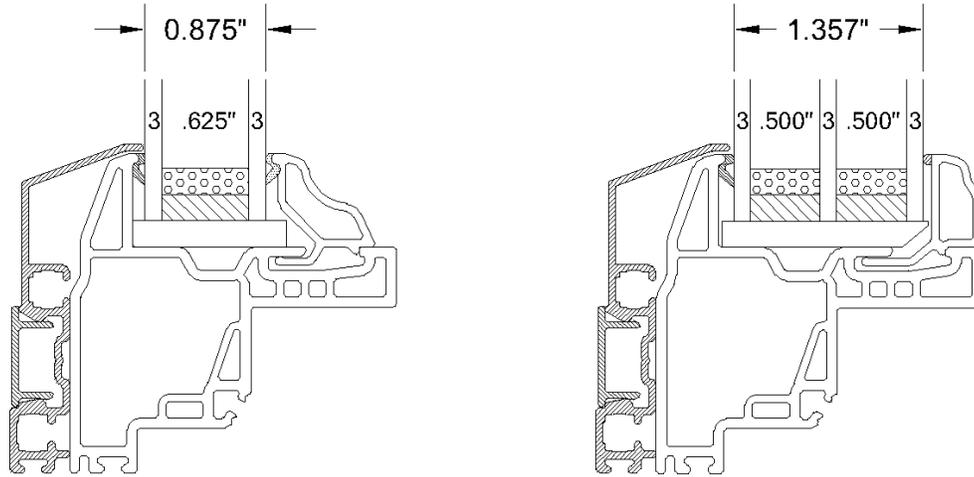
4000/5000 Series - Casement/Awning Glazing Options



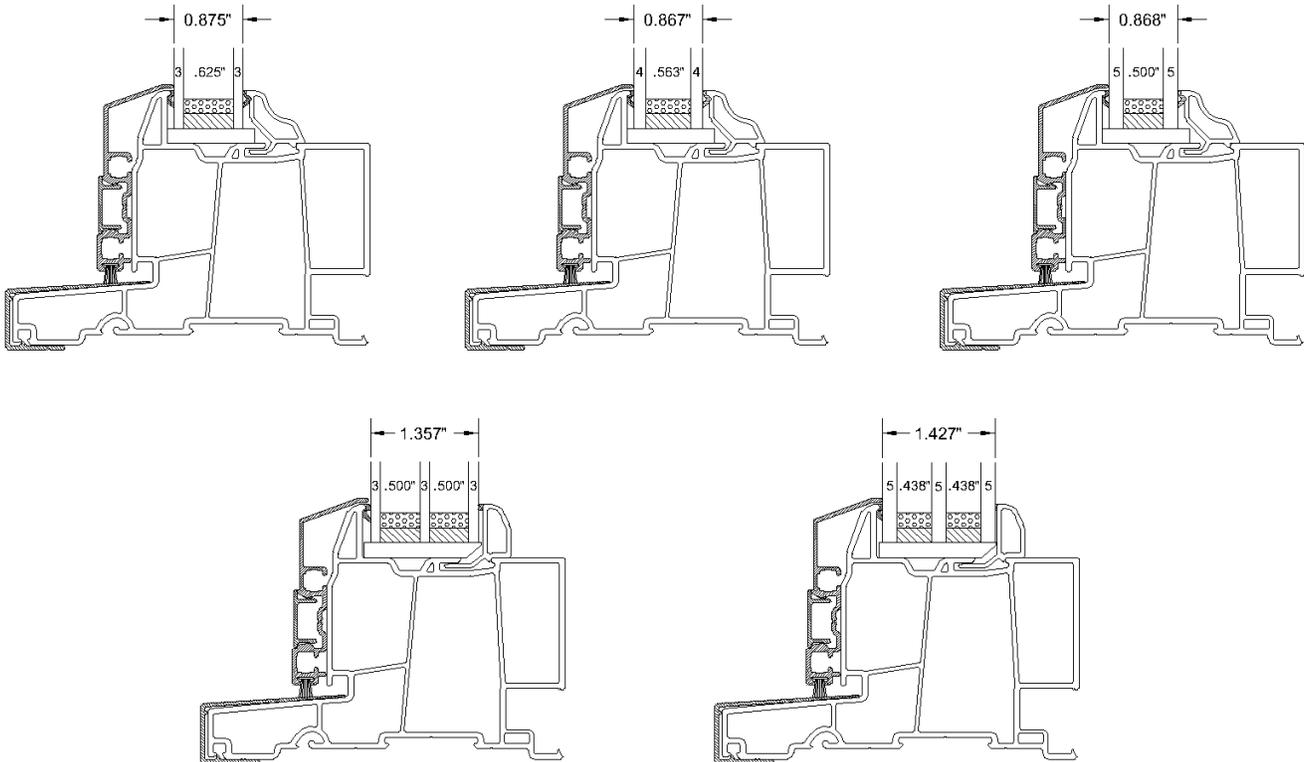
4000/5000 Series - Picture Glazing Options



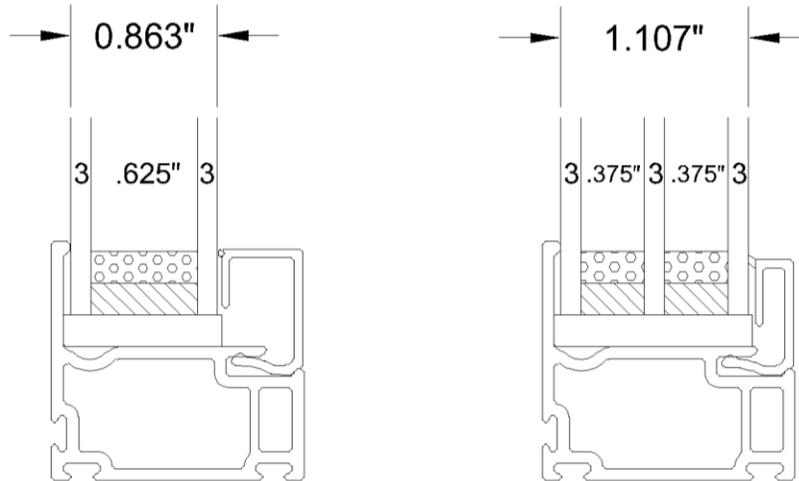
4000 Hybrid/5000 Hybrid Series - Casement/Awning Glazing Options



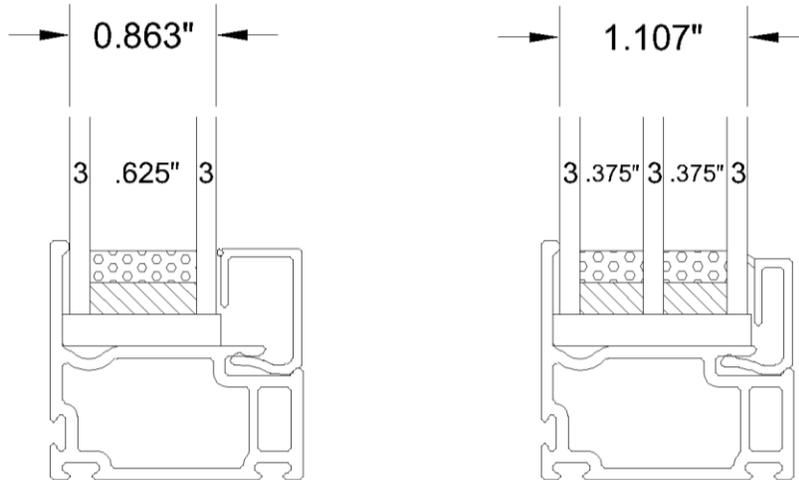
4000 Hybrid/5000 Hybrid Series - Picture Glazing Options



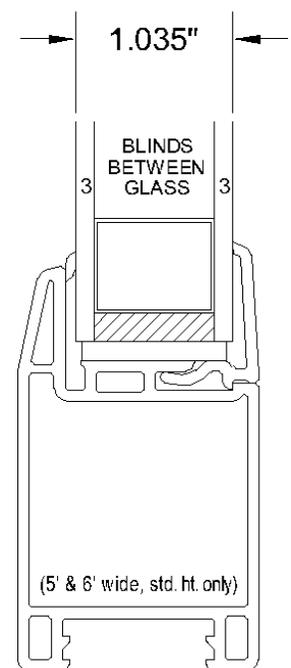
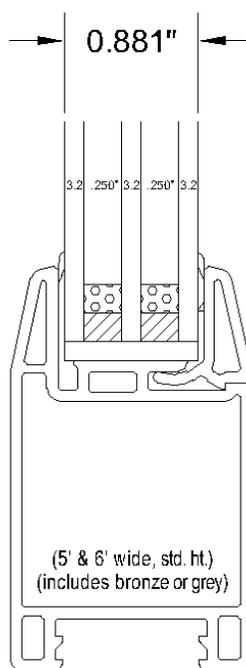
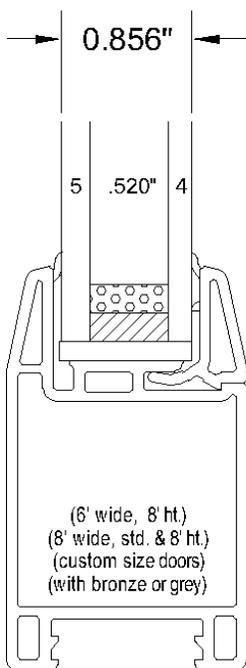
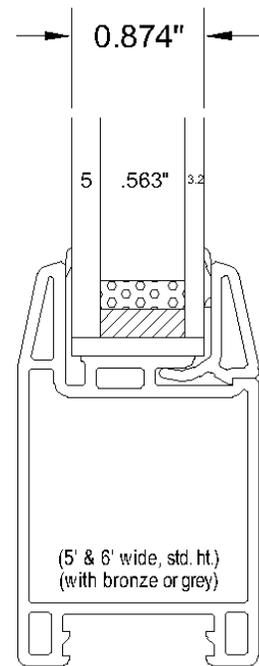
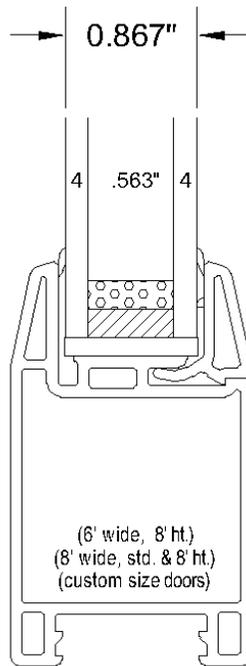
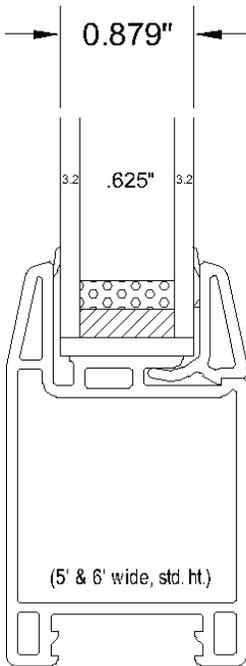
4000/5000 Series - Single Hung/Slider Glazing Options



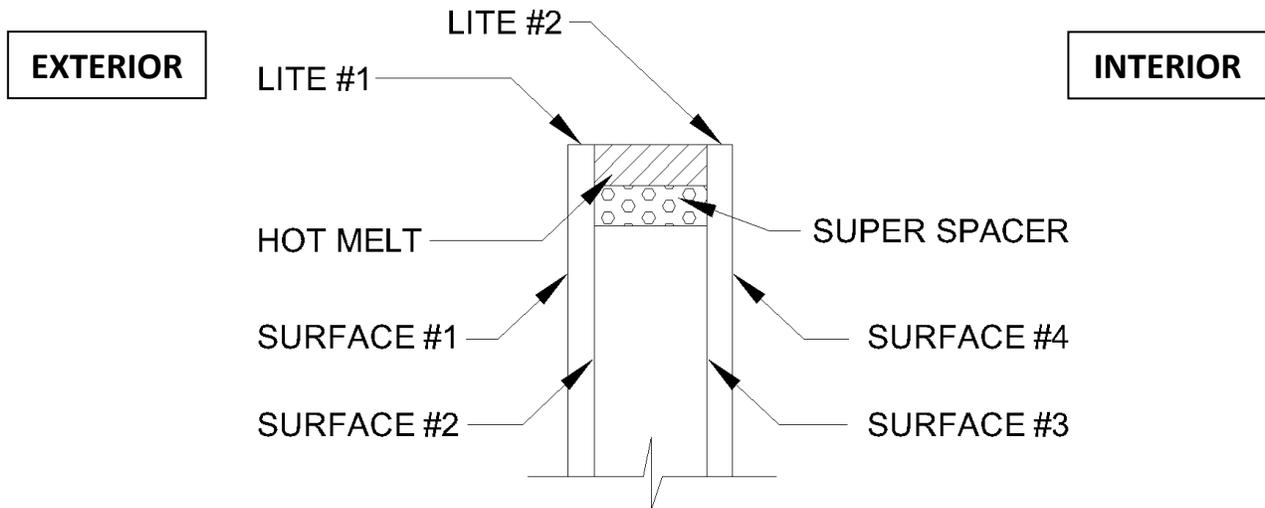
4000 Hybrid/5000 Hybrid Series - Single Hung/Slider Glazing Options



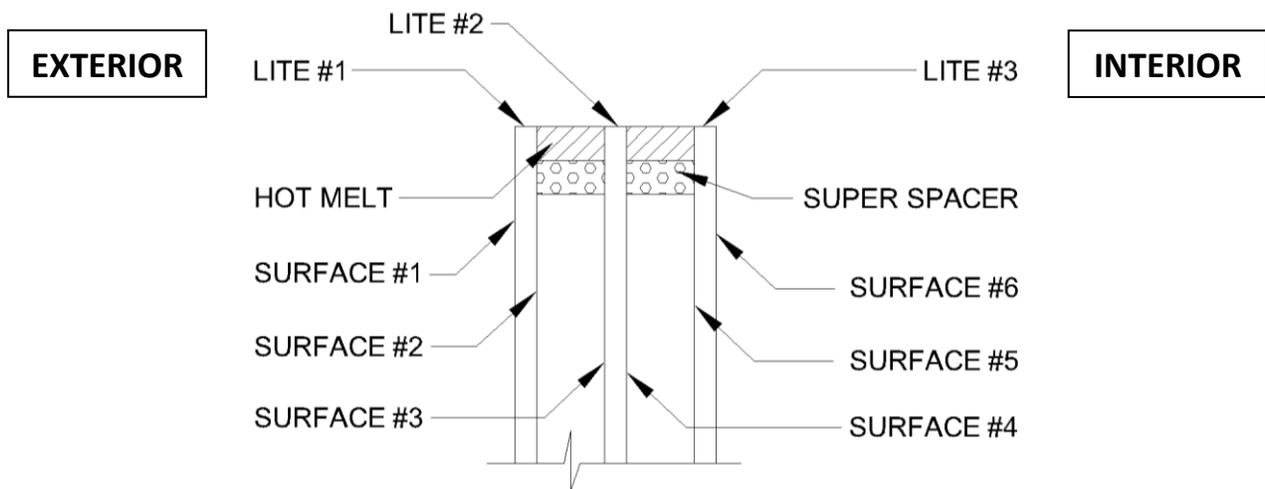
Patio Door Glazing Options



Double Glazed Unit Assembly



Triple Glazed Unit Assembly

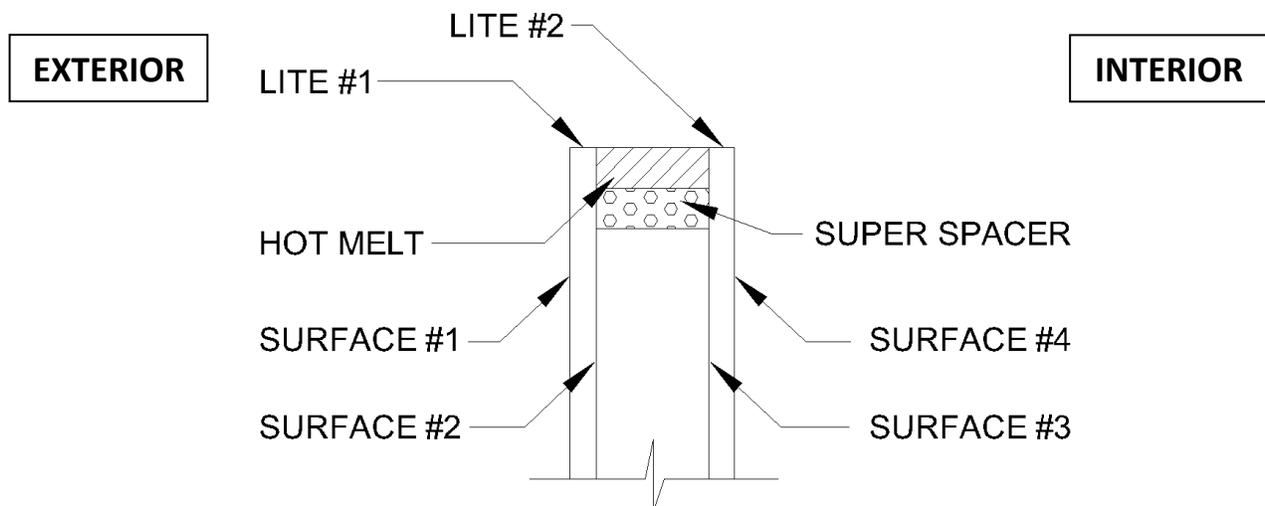


DOUBLE GLAZED UNIT ASSEMBLY		
<u>LITE #1</u>	<u>LITE #2</u>	<u>PARAMETERS</u>
Clear Activ Bronze or Grey	Clear Clear Clear	Activ, Surface #1 Tinted, Lite #1 Grids Available
Clear Activ Bronze or Grey	Low "E" Low "E" Low "E"	Low "E", Surface #3 Activ, Surface #1 Tinted, Lite #1 Grids Available
Clear Low "E" Bronze or Grey Activ	Obscure Obscure Obscure Obscure	Obscure, Rough Surface #3 Low "E", Surface #2 Tinted, Lite #1 Activ, Surface #2 Grids Available
LoE 366 LoE 366	Clear Obscure	LoE 366, Surface #2 Grids Available
Obscure	Obscure	Obscure, Rough Surfaces #2 & #3

NOTE:

The following combinations are not available:

- LoE 366 with Low "E"
- LoE 366 with Activ
- LoE 366 with Bronze or Grey



TRIPLE GLAZED UNIT ASSEMBLY			
LITE #1	LITE #2	LITE #3	PARAMETERS
Clear Activ Bronze or Grey	Clear Clear Clear	Low "E" Low "E" Low "E"	Low "E", Surface #5 Activ, Surface #1 Tinted, Lite #1 Grids Available
Clear Activ Bronze or Grey	Obscure Obscure Obscure	Low "E" Low "E" Low "E"	Low "E", Surface #5 Activ, Surface #1 Obscure, Rough Surface #4 Tinted, Lite #1 Grids, Space A
Clear Activ Bronze or Grey	Low "E" Low "E" Low "E"	Low "E" Low "E" Low "E"	Low "E", Surfaces #3 & #5 Activ, Surface #1 Tinted, Lite #1 Grids, Space "A"
LoE 366 LoE 366	Clear Obscure	Clear Clear	Obscure, Rough Surface #4 Grids, Space, "A"
Clear Low "E" Activ LoE 366	Obscure Obscure Obscure Obscure	Obscure Obscure Obscure Obscure	Obscure, Rough Surfaces #4 & #5 Low "E", Surface #2 Activ, Surface #1 LoE 366, Surface #2 Grids, Space "A"

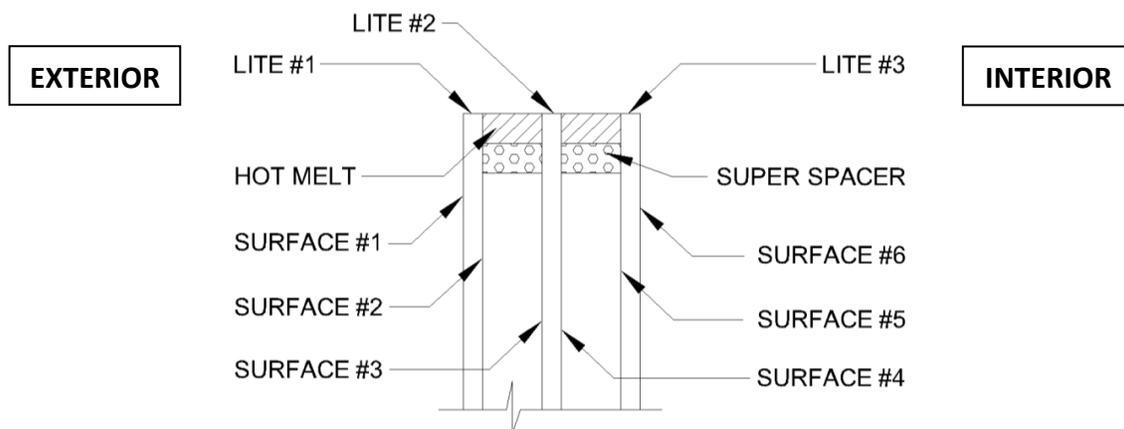
NOTE:

The following combinations are not available:

- LoE 366 with Low "E"
- LoE 366 with Activ
- LoE 366 with Bronze or Grey

Grids always space "A"

Activ always surface #1



STC (Sound Transmission Class)

The ability of a window to reduce exterior noise is rated by its STC (Sound Transmission Class) or OITC (Outdoor-Indoor Transmission Class). In both cases, the higher the rating, the better the window is at reducing sound.

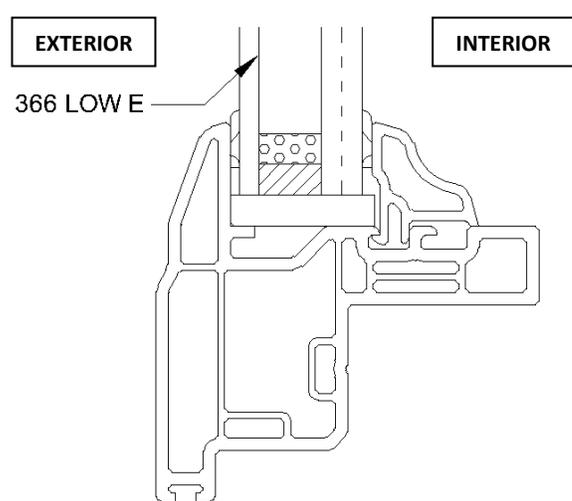
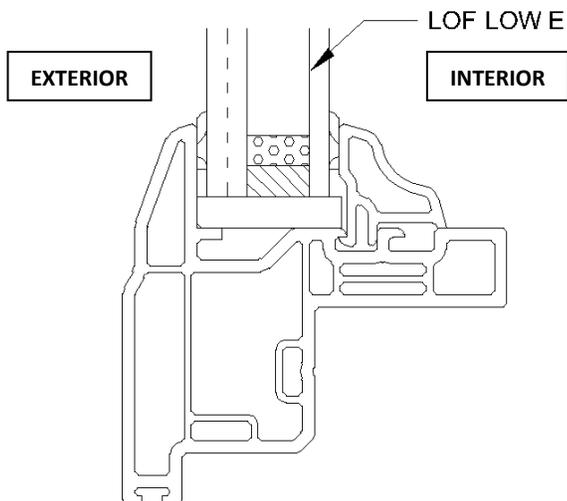
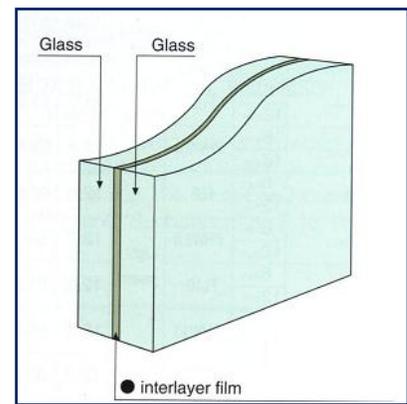
STC ratings give an indication of the reduction in high frequency sounds (voices, birds, etc.). OITC ratings, on the other hand, give an indication of the reduction in low frequency sounds (traffic, trains, etc.).

Laminated Glass to Reduce Sound Transmission

Laminated glass is highly effective in reducing noise, which in turn improves STC and OITC ratings. It is produced by permanently bonding two pieces of glass together with a tough plastic interlayer between them, keeping the layers of glass bonded – even when broken. Laminated glass also blocks 99.5% of the sun’s ultraviolet rays, protecting furniture and flooring from fading.

North Star offers an insulated glass unit that is made up of 6mm laminated glass (3mm/3mm) to the exterior, and a standard 3mm glass to the room side. Having this mismatched glass effectively changes the frequency of the sound waves as they pass through the insulated glass unit, reducing decibel levels.

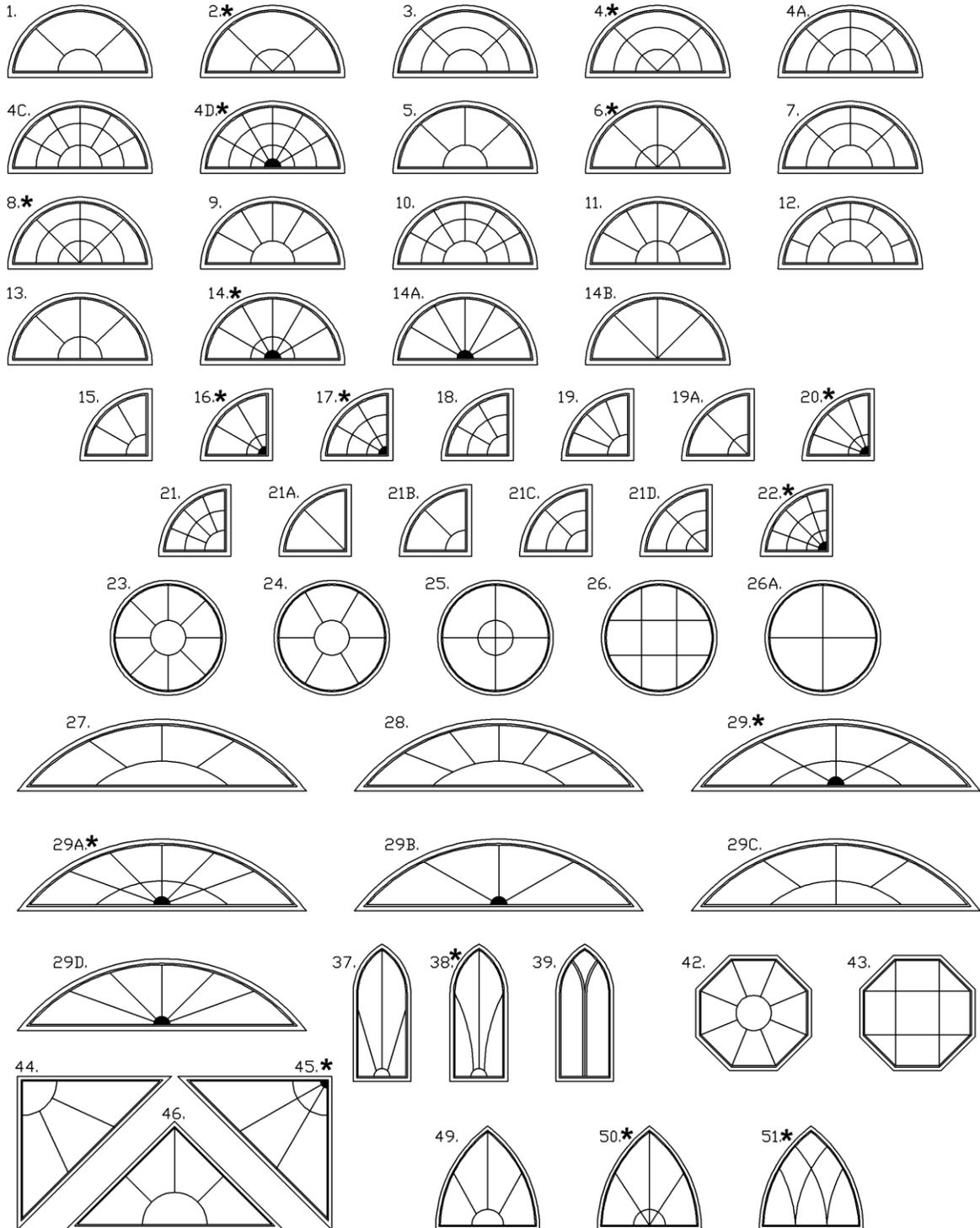
Our standard dual pane insulated glass unit with two panes of 3mm glass (non-laminated) will typically have an STC rating of about 25-30. The use of 6mm laminate glass will improve STC ratings to approximately 35, depending on the type of window.



LAMINATED GLASS UNIT ASSEMBLY		
LITE #1	LITE #2	PARAMETERS
6mm Clear Laminate LoE 366	Low "E" 6mm Clear Laminate	Grids Available

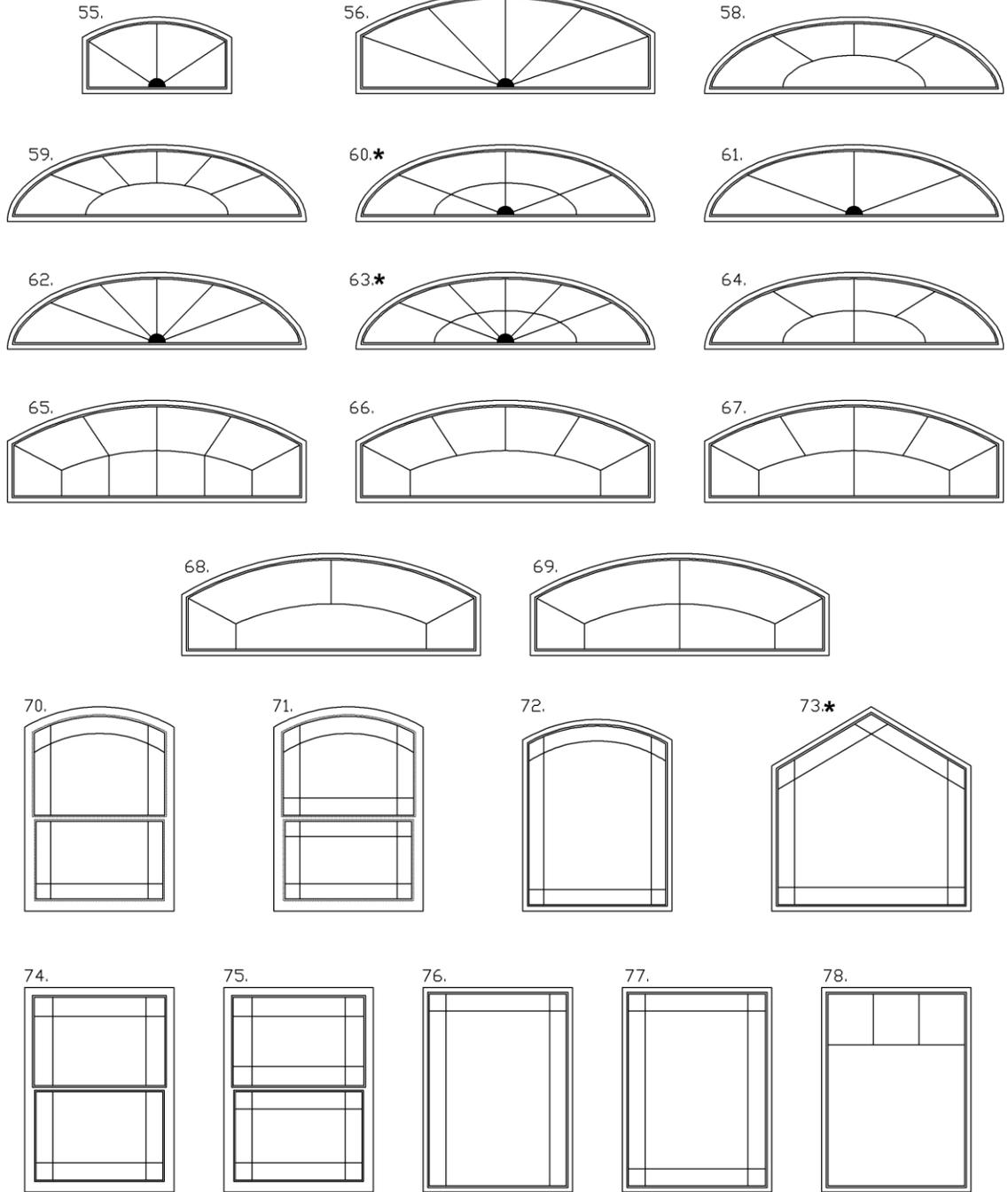
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Architectural Grilles



(*Not Available with Contour Grille)

Note: Grilles between the glass panes may "rattle" when subjected to vibrations or windy conditions



Prairie 6

Prairie 9

Prairie 6

Prairie 9

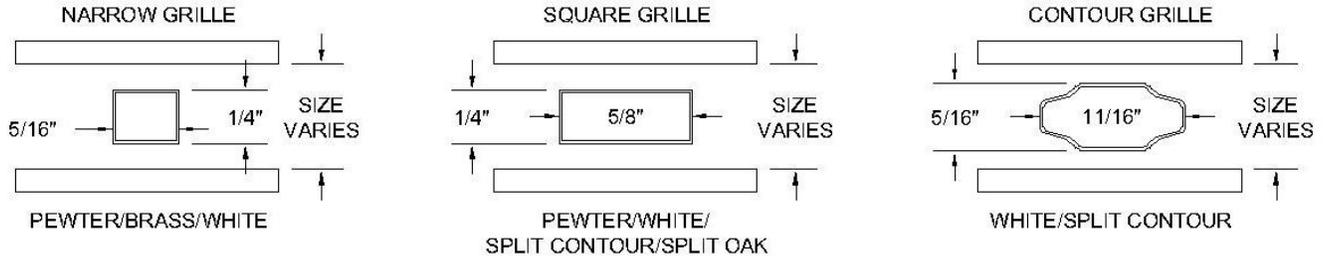
This example is
counted as 4 squares
(Muskoka Grille)

(*Not Available with Contour Grille)

Note: Grilles between the glass panes may "rattle" when subjected to vibrations or windy conditions

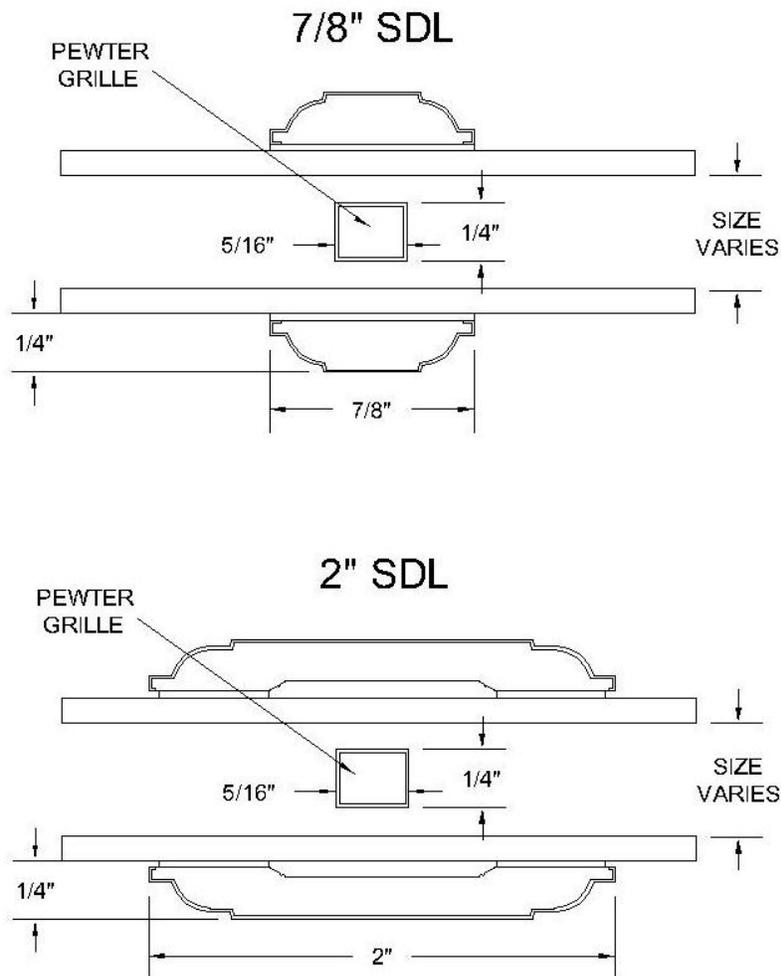
- 48" maximum unsupported horizontal span on 1/4" x 5/16" grille
- 60" maximum unsupported horizontal span on 1/4" x 5/8" flat grille
- 84" maximum unsupported horizontal span on 5/16" x 3/4" contour grille
- Prairie grilles available with 3 1/2" or 4 1/2" corners
- Minimum 8" diameter on contour grille. Minimum 10" if adding square grilles below in the same sealed unit

Between the Glass Grilles



Note: For triple glazing, grilles are placed in exterior airspace

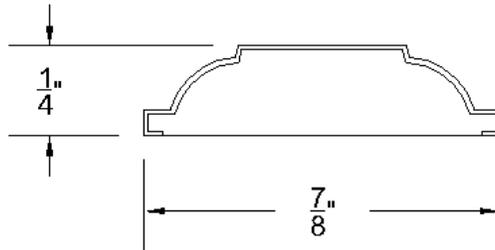
Simulated Divided Lites



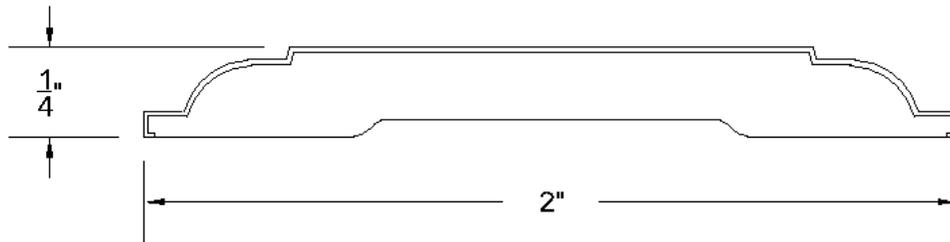
Note: Pewter air space grille is not available for SDL grilles with triple glazing

Simulated Divided Lites - Vinyl Windows

7/8" SDL

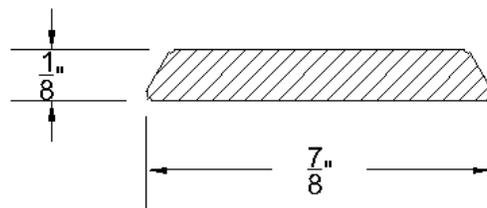


2" SDL

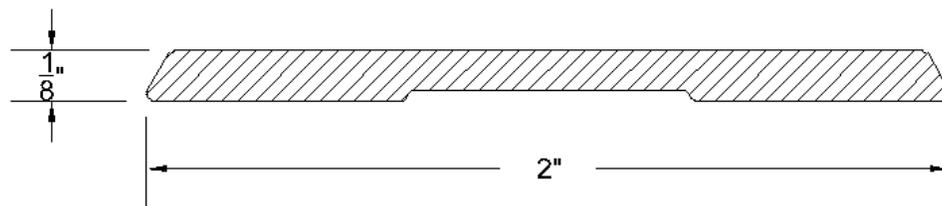


Simulated Divided Lites - Hybrid (Aluminum) Windows

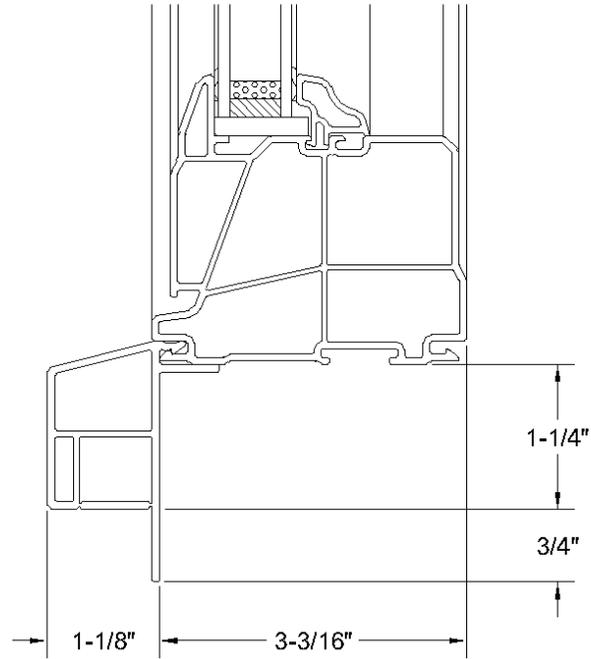
7/8" ALUMINUM SDL



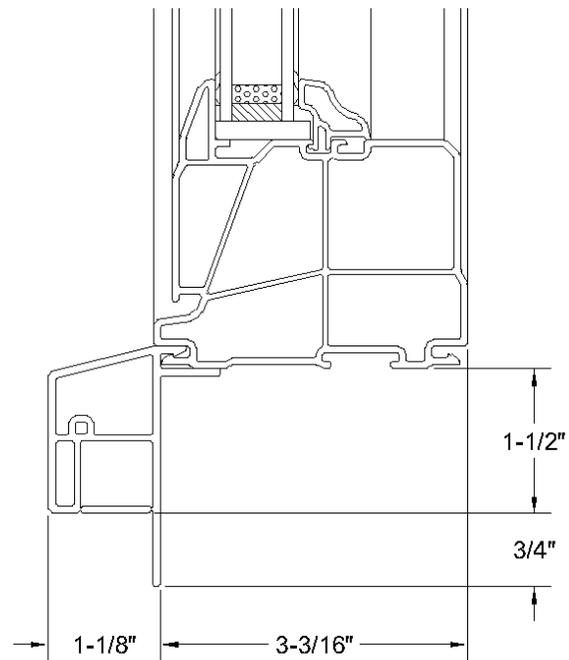
2" ALUMINUM SDL



1000 Series - Standard Brickmold

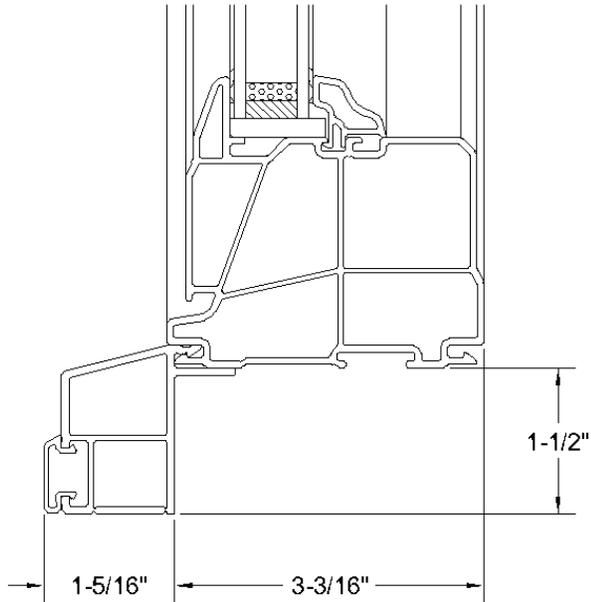


1-1/4" BRICKMOLD

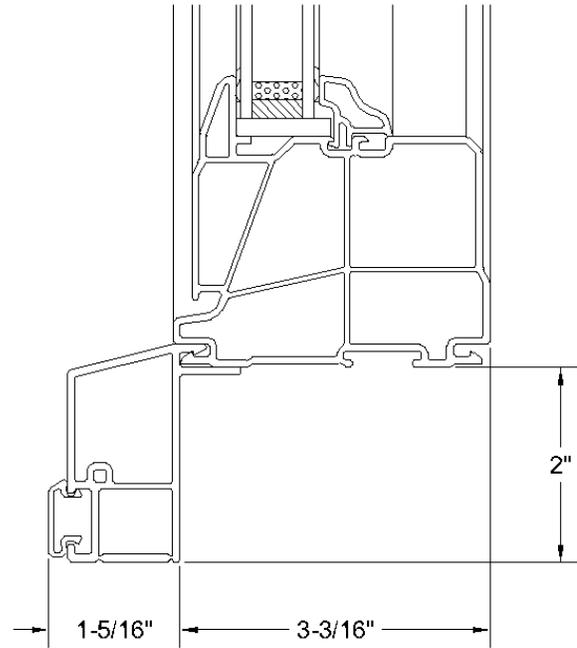


1-1/2" BRICKMOLD

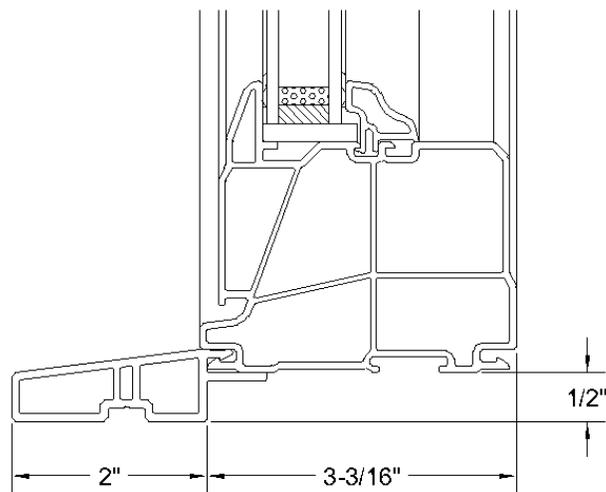
1000 Series - Renovation Brickmold



1-1/2" BRICKMOLD WITH CAP

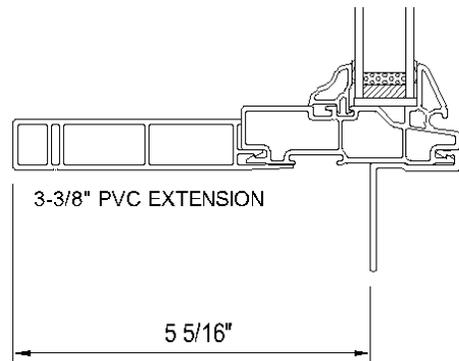
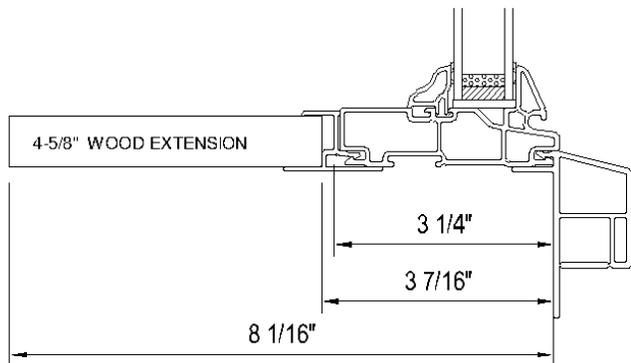
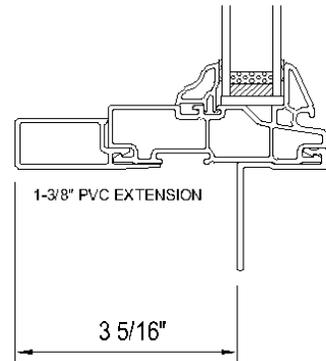
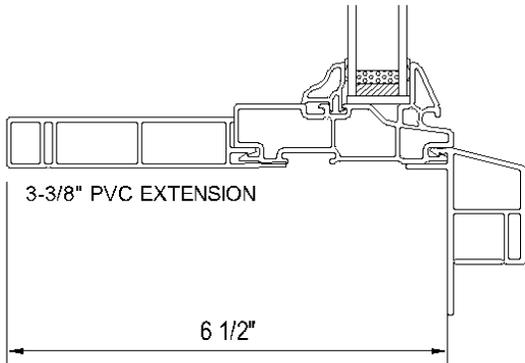
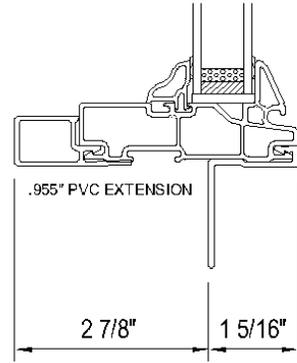
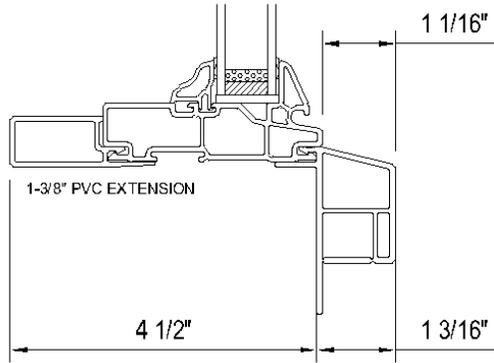


2" BRICKMOLD WITH CAP

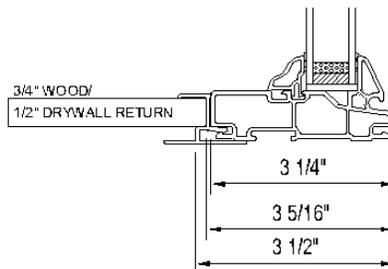
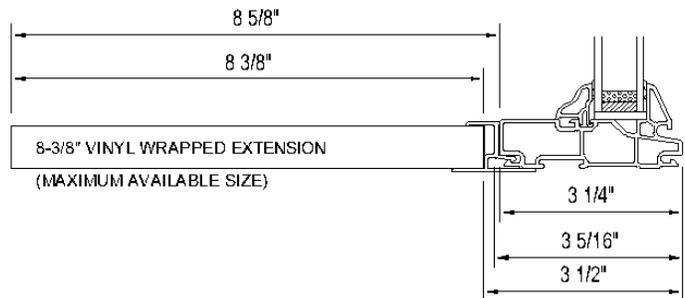
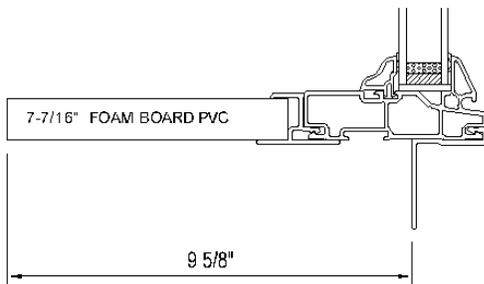
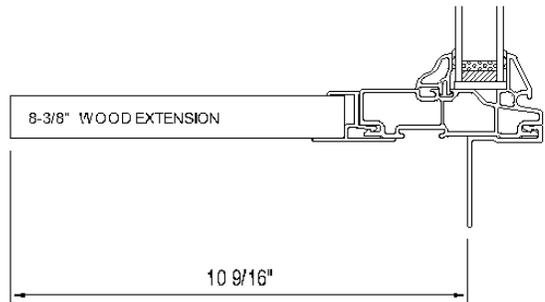
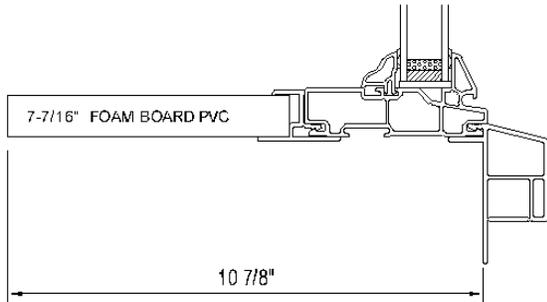
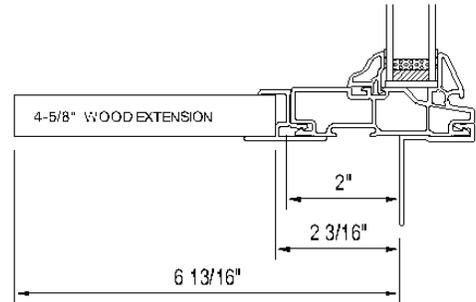
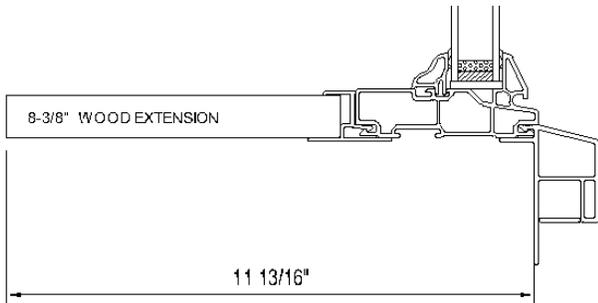


1/2" BRICKMOLD

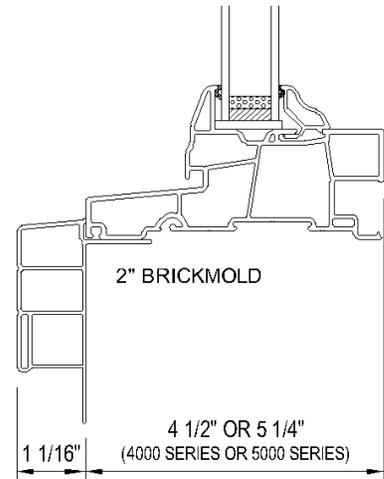
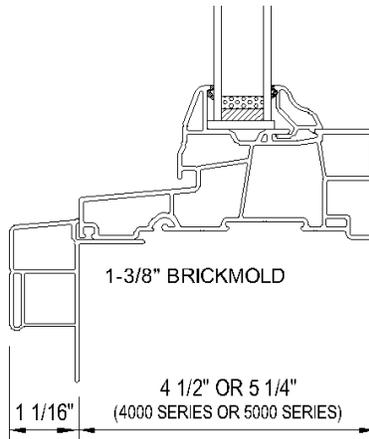
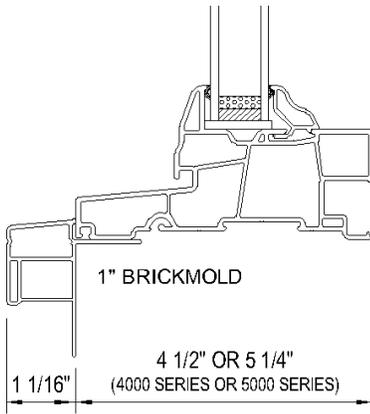
1000 Series - Accessories



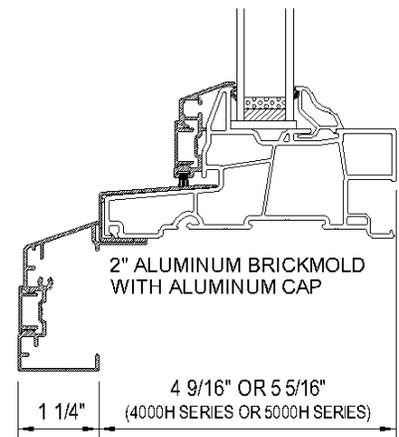
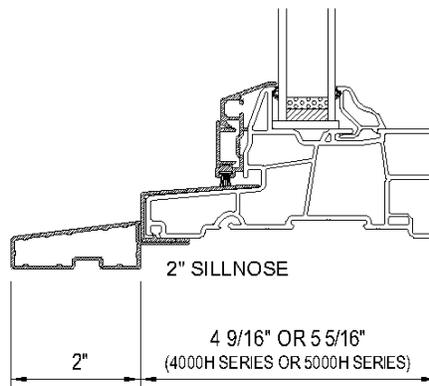
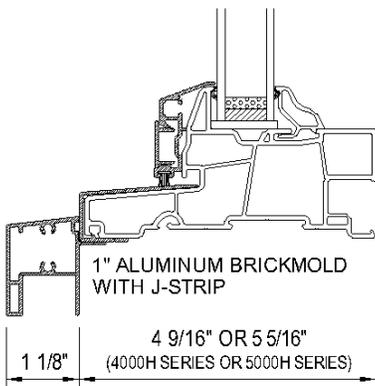
1000 Series - Accessories



4000/5000 Series - Accessories



4000 Hybrid/5000 Hybrid Series - Accessories

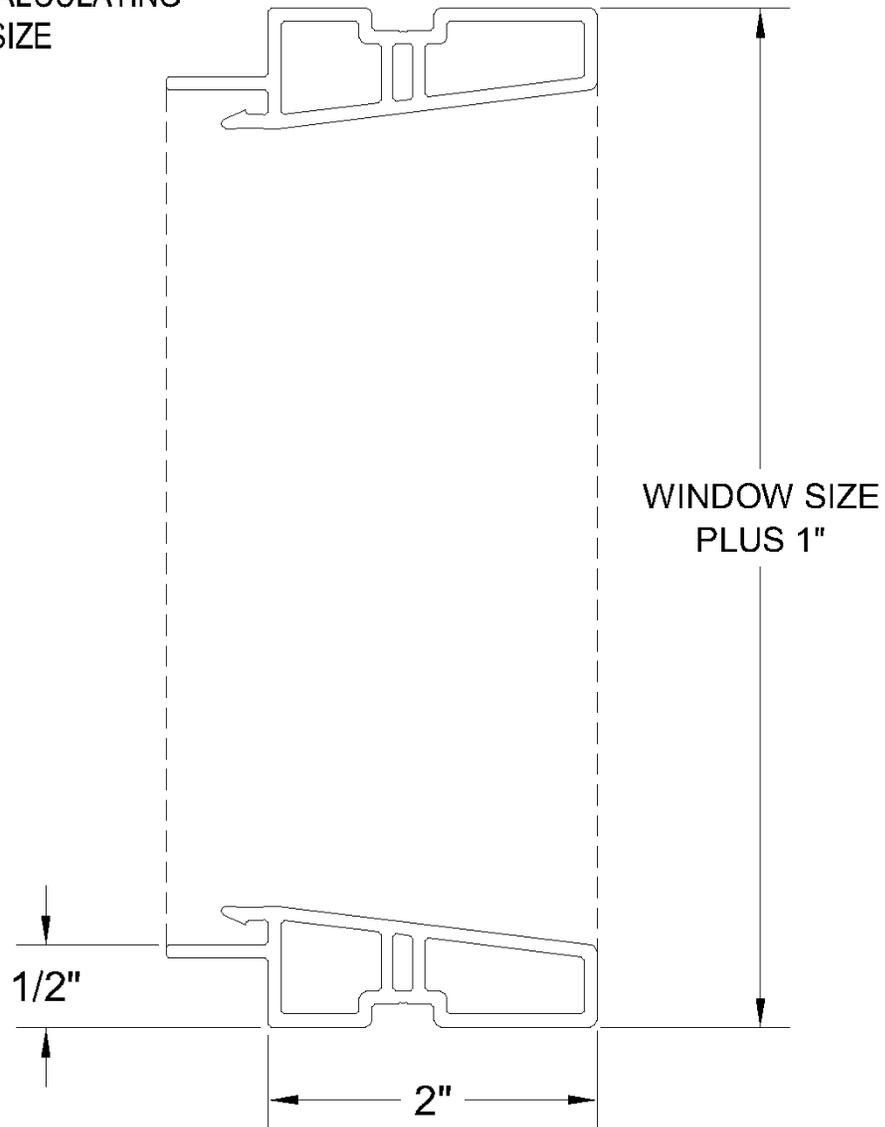


NOTE: SHAPED UNITS RECEIVE 1" ALUMINUM BRICKMOLD ONLY

1/2" Brickmold - Sill Nose (1000 Series)

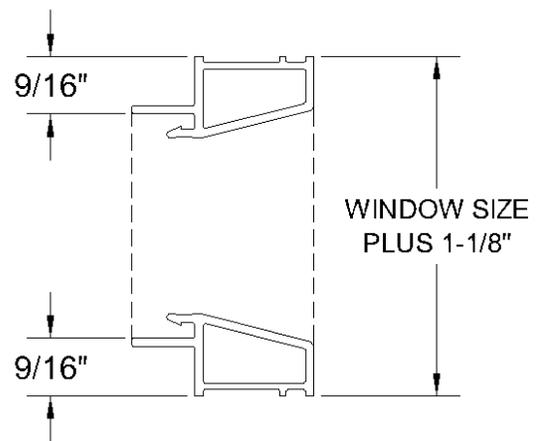
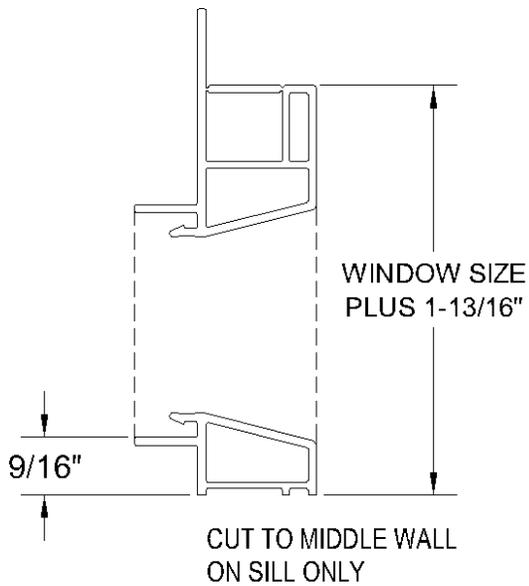
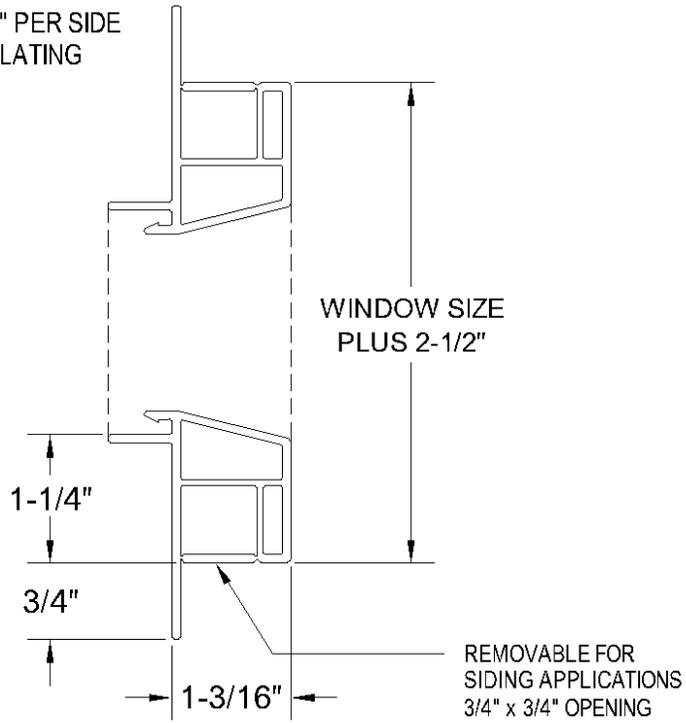
Note: Sill nose application may only be used with 1-1/2" brickmold and 2" brickmold with cap

DEDUCT 1/2" PER SIDE
WHEN CALCULATING
FRAME SIZE

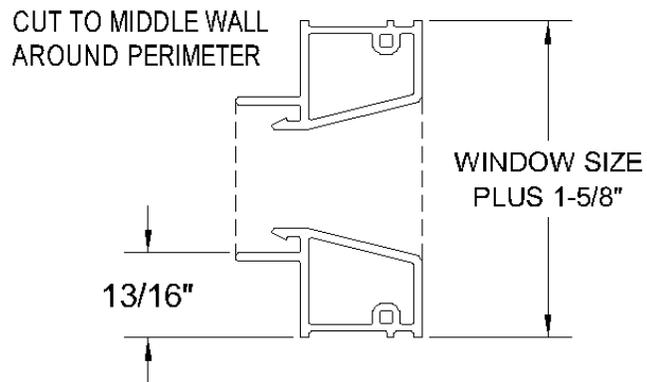
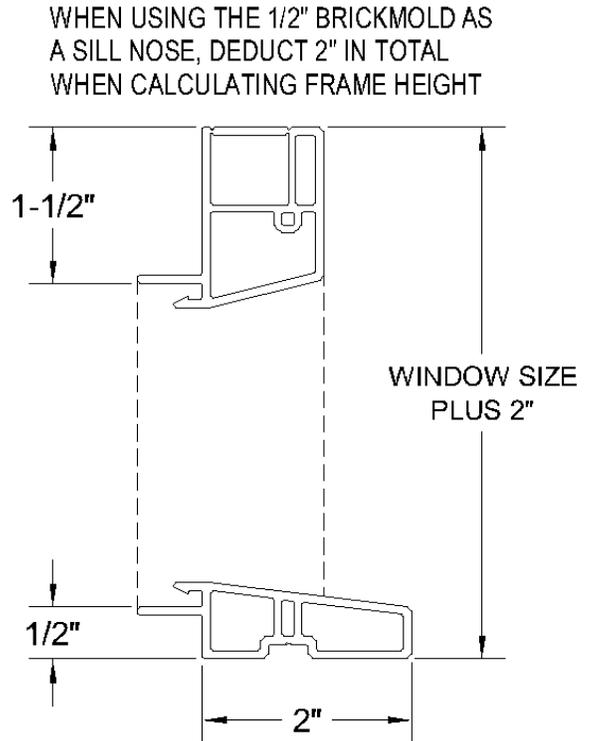
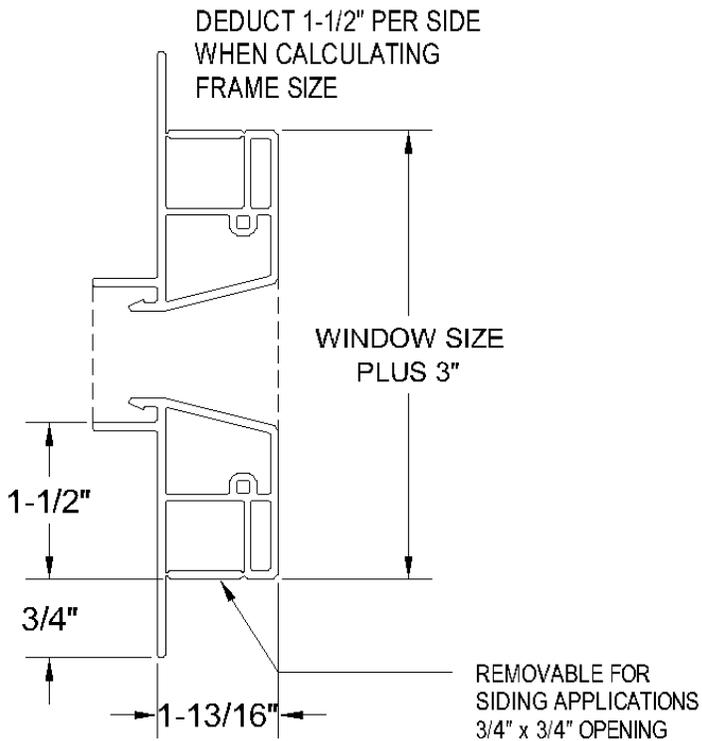


1-1/4" Brickmold (1000 Series)

DEDUCT 1-1/4" PER SIDE
WHEN CALCULATING
FRAME SIZE

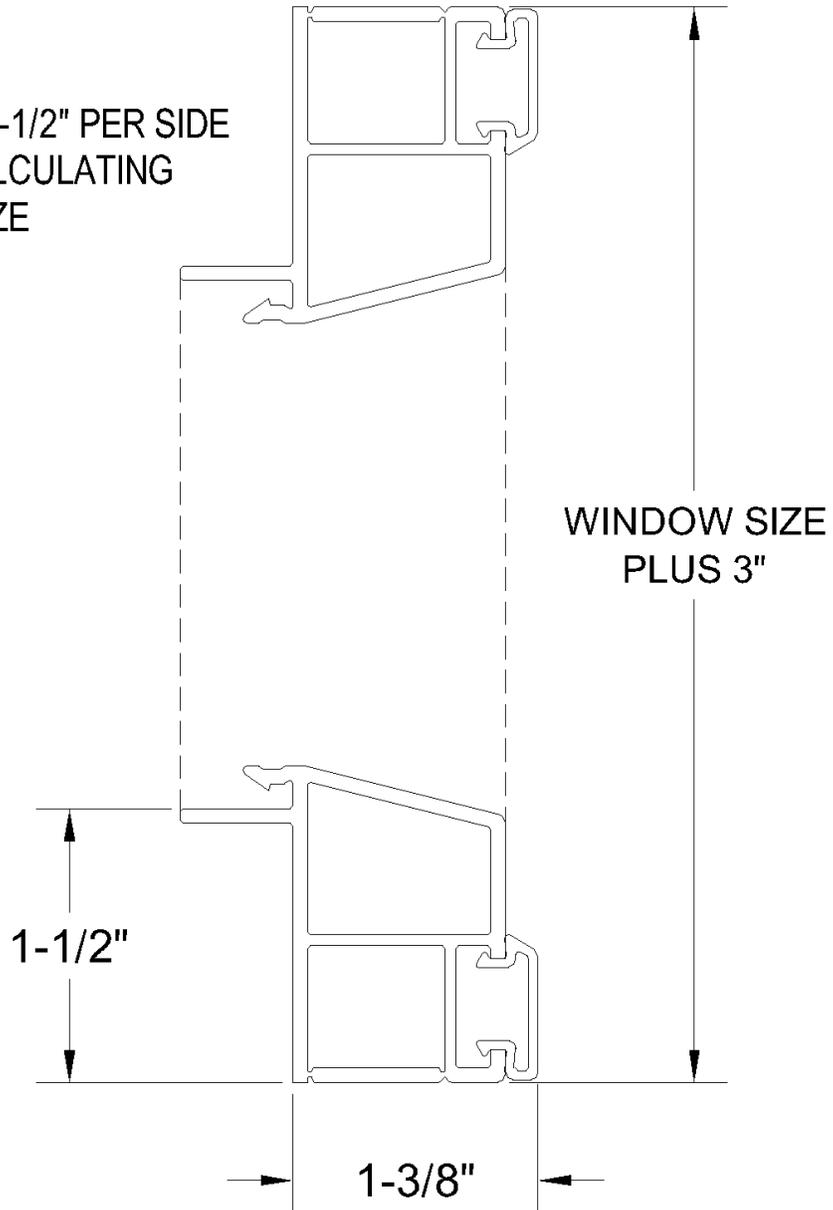


1-1/2" Brickmold (1000 Series)



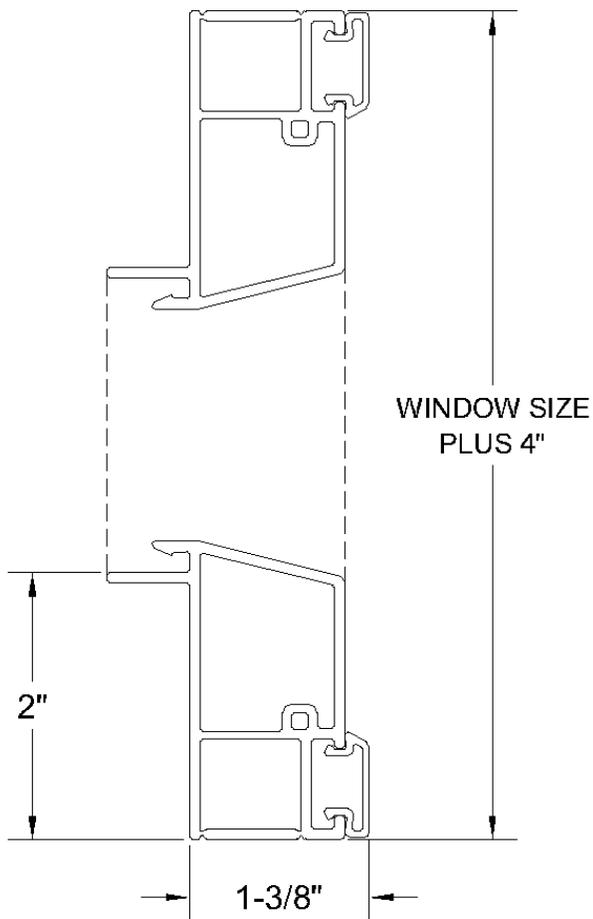
1-1/2" Brickmold With Cap (1000 Series)

DEDUCT 1-1/2" PER SIDE
WHEN CALCULATING
FRAME SIZE

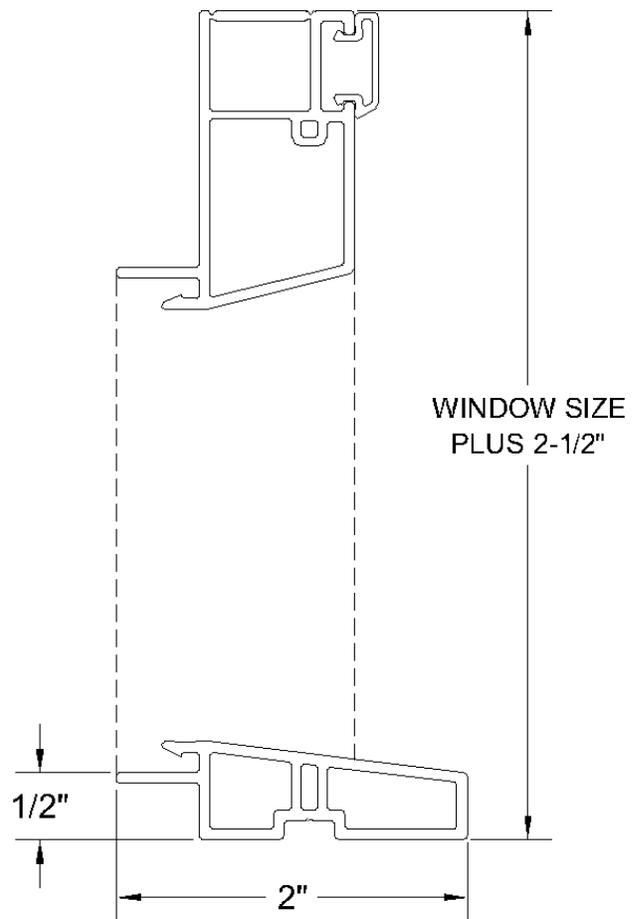


2" Brickmold (1000 Series)

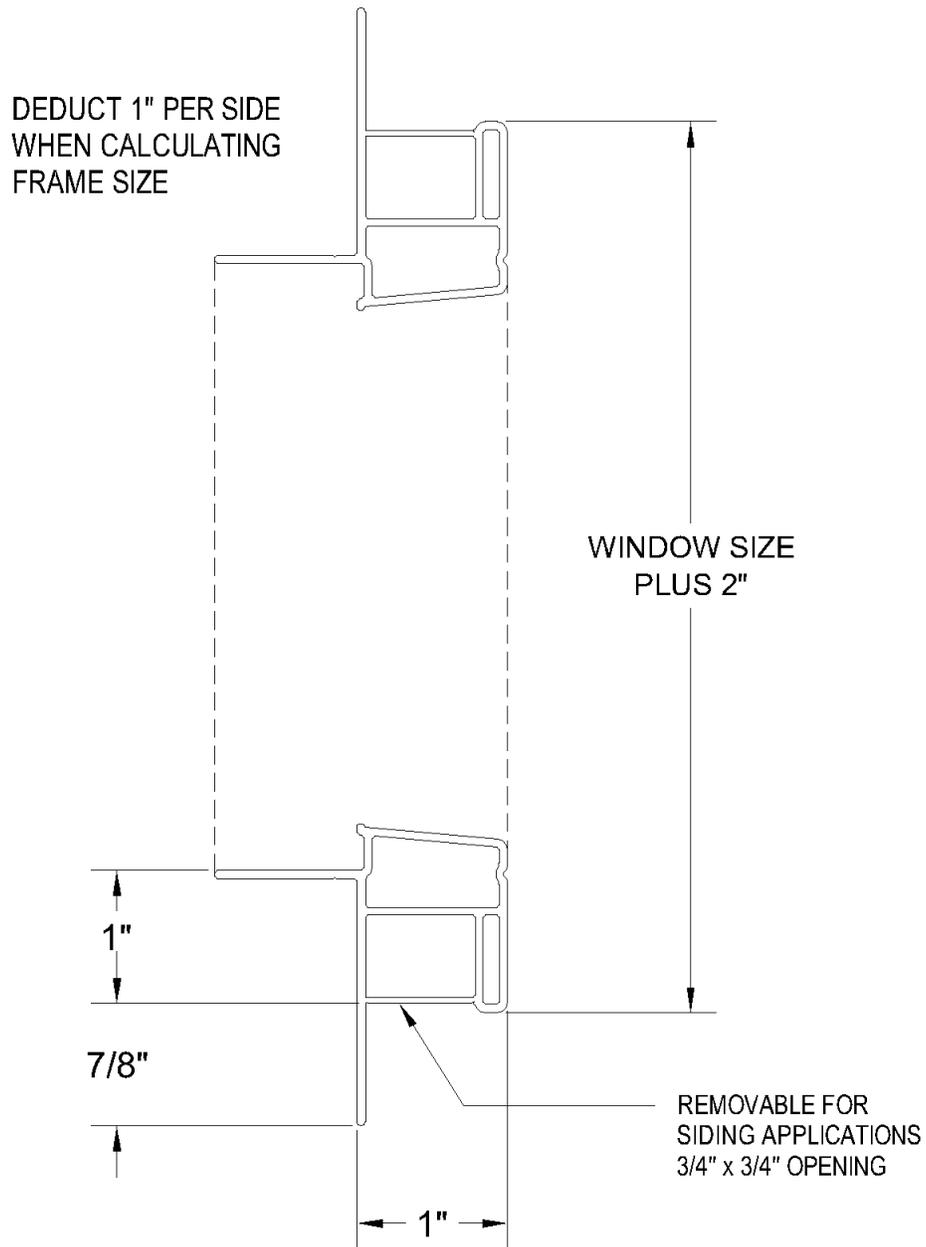
DEDUCT 2" PER SIDE WHEN
CALCULATING FRAME SIZE



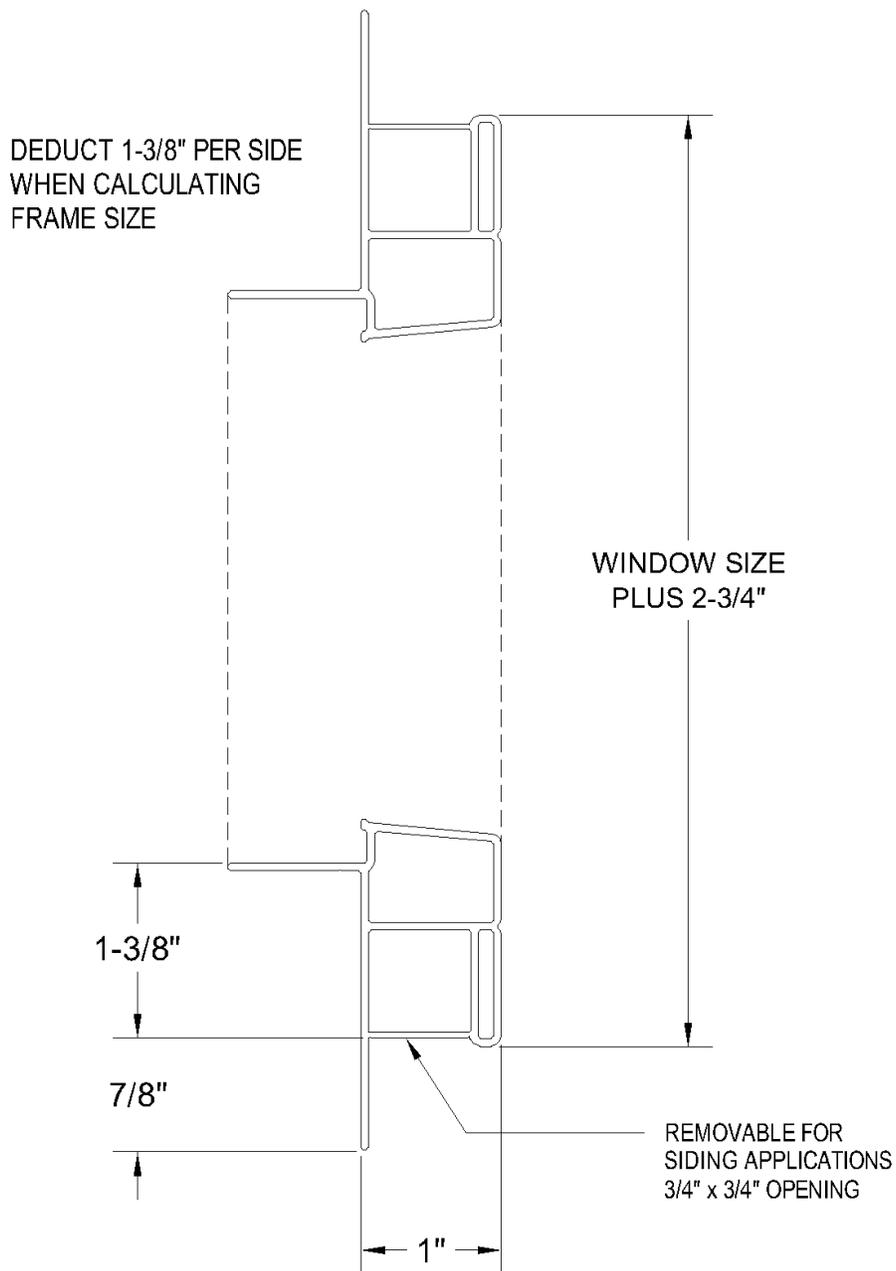
WHEN USING THE 1/2" BRICKMOLD AS
A SILL NOSE, DEDUCT 2-1/2" IN TOTAL
WHEN CALCULATING FRAME HEIGHT



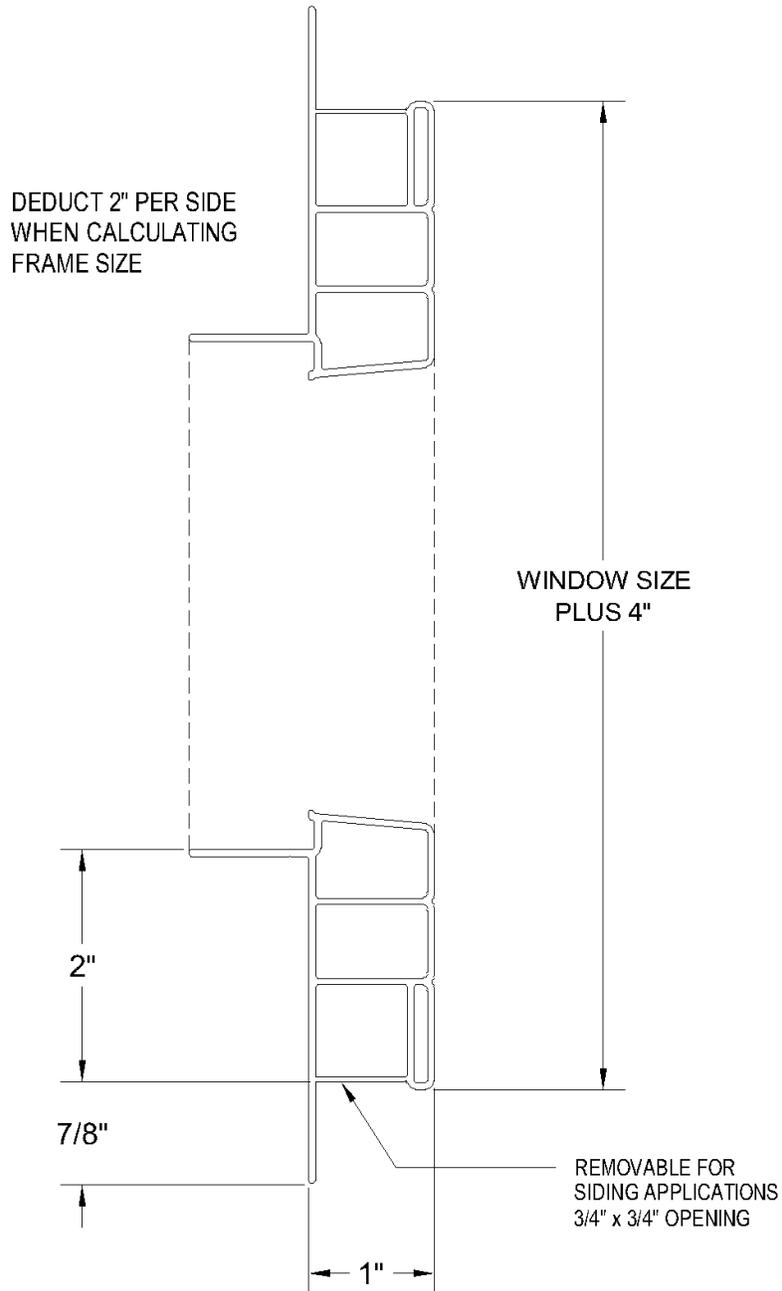
1" Brickmold (4000/5000 Series)



1-3/8" Brickmold (4000/5000 Series)

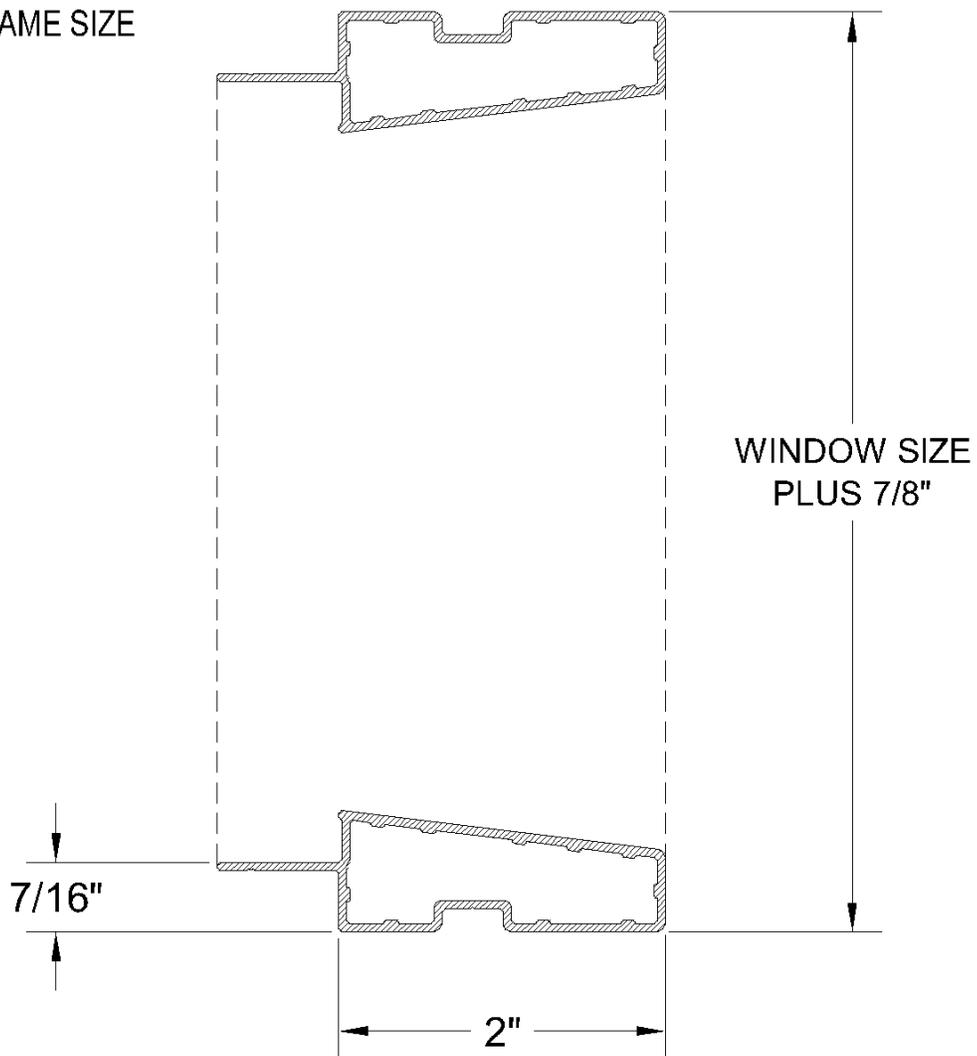


2" Brickmold (4000/5000 Series)



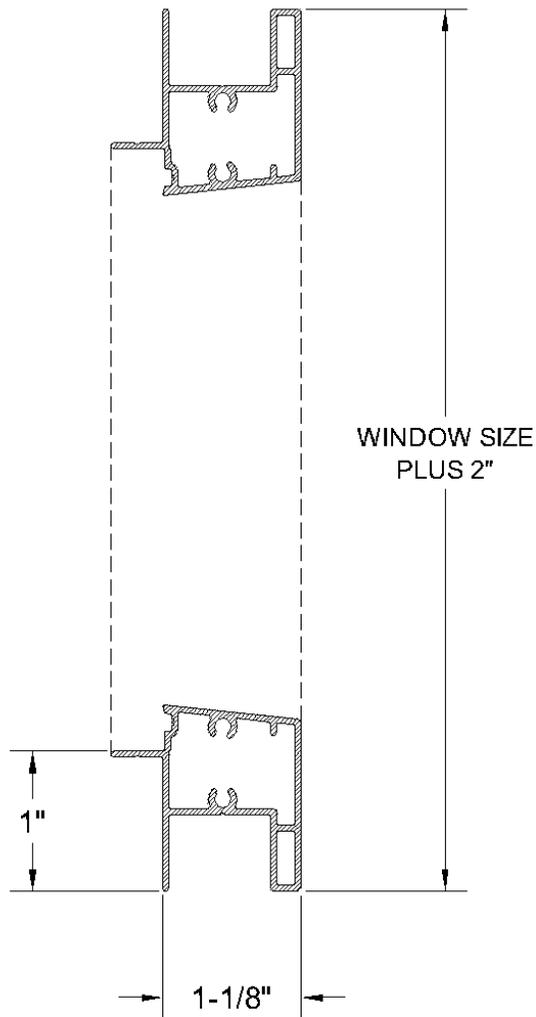
2" Aluminum Brickmold - Sill Nose (4000 Hybrid/5000 Hybrid Series)

DEDUCT $7/16"$ PER SIDE
WHEN CALCULATING
FRAME SIZE

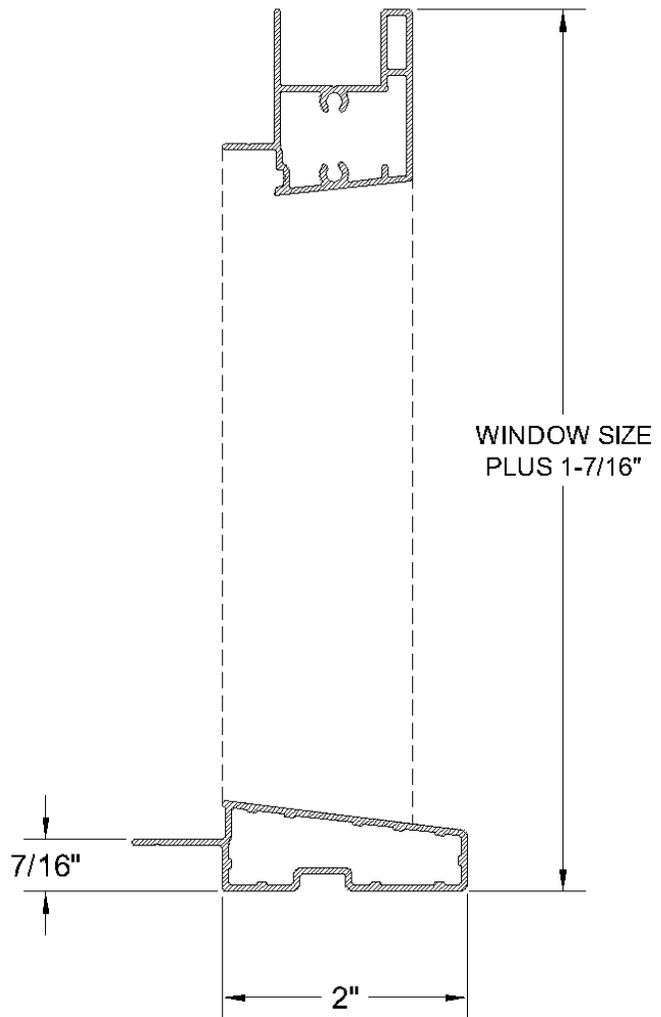


1" Aluminum Brickmold (4000 Hybrid/5000 Hybrid Series)

DEDUCT 1" PER SIDE WHEN
CALCULATING FRAME SIZE

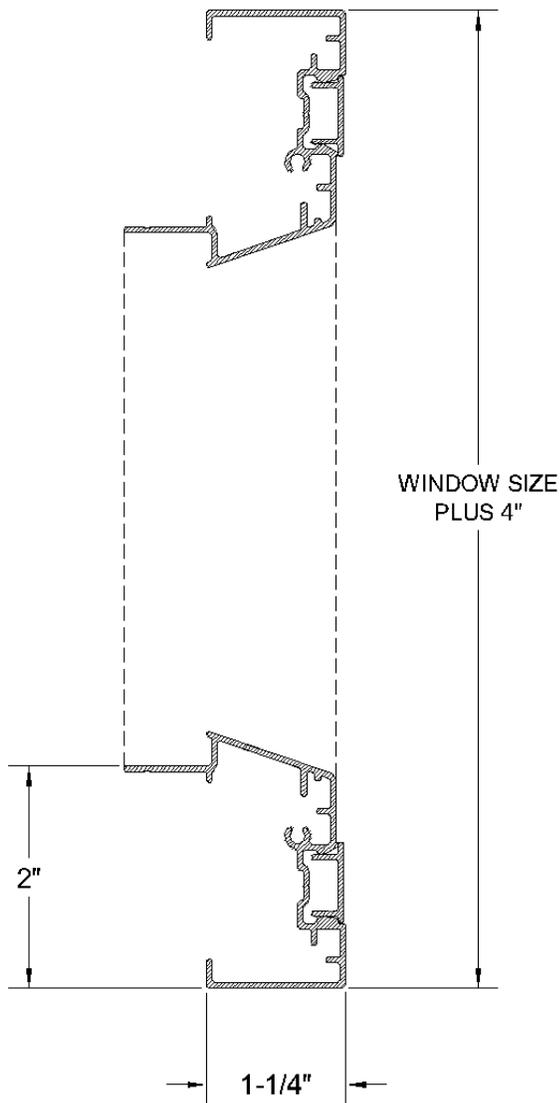


WHEN USING THE 7/16" BRICKMOLD AS
A SILL NOSE, DEDUCT 1-7/16" IN TOTAL
WHEN CALCULATING FRAME HEIGHT

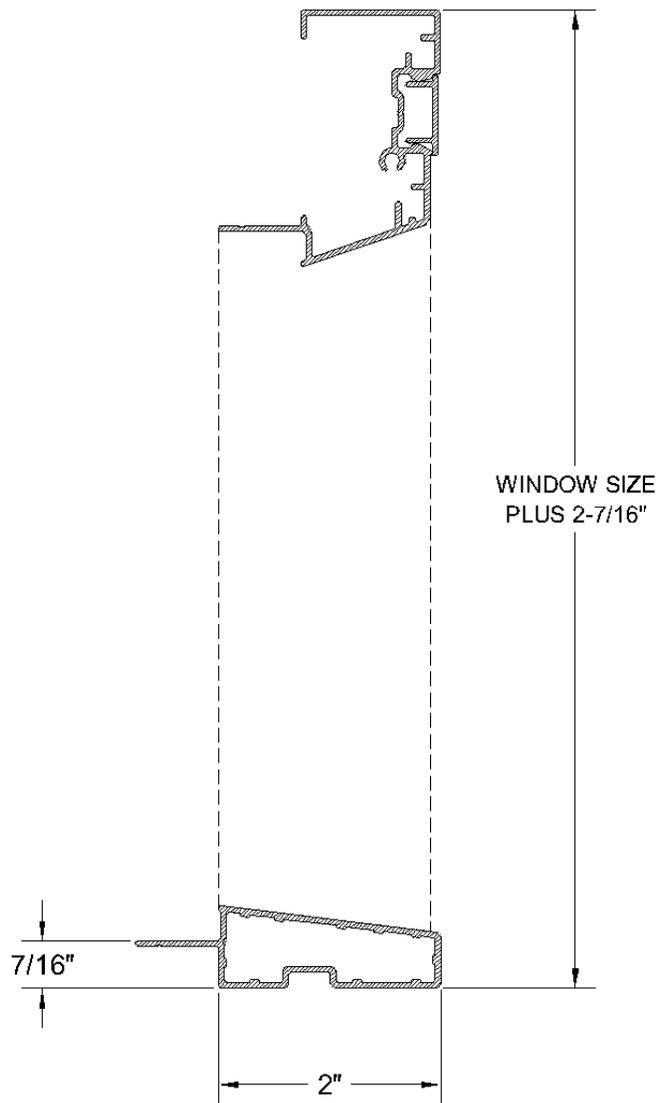


2" Aluminum Brickmold With Cap (4000 Hybrid/5000 Hybrid Series)

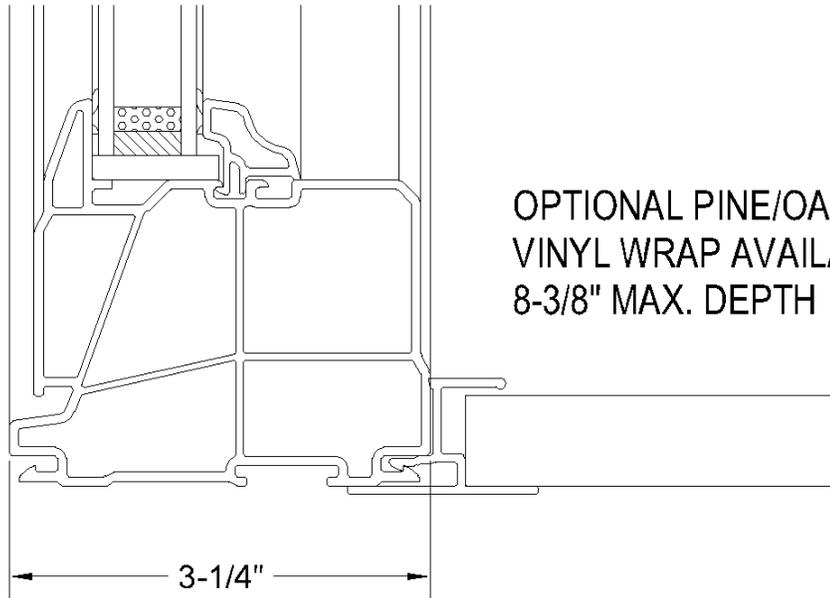
DEDUCT 2" PER SIDE WHEN
CALCULATING FRAME SIZE



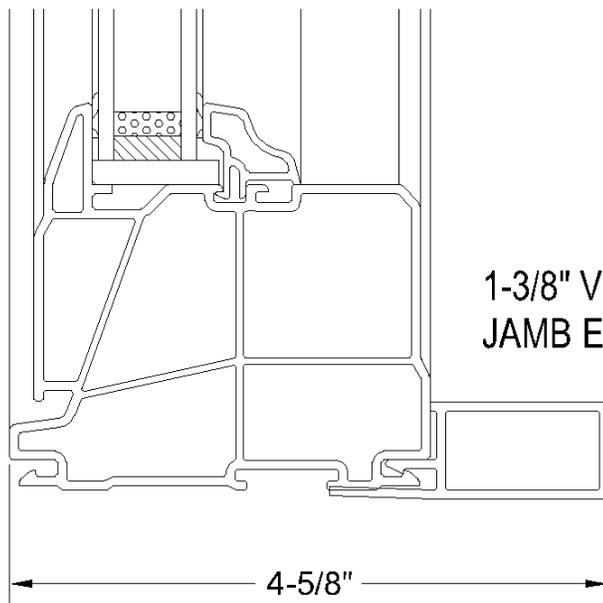
WHEN USING THE 7/16" BRICKMOLD AS
A SILL NOSE, DEDUCT 2-7/16" IN TOTAL
WHEN CALCULATING FRAME HEIGHT



1000 Series - Jamb Extensions

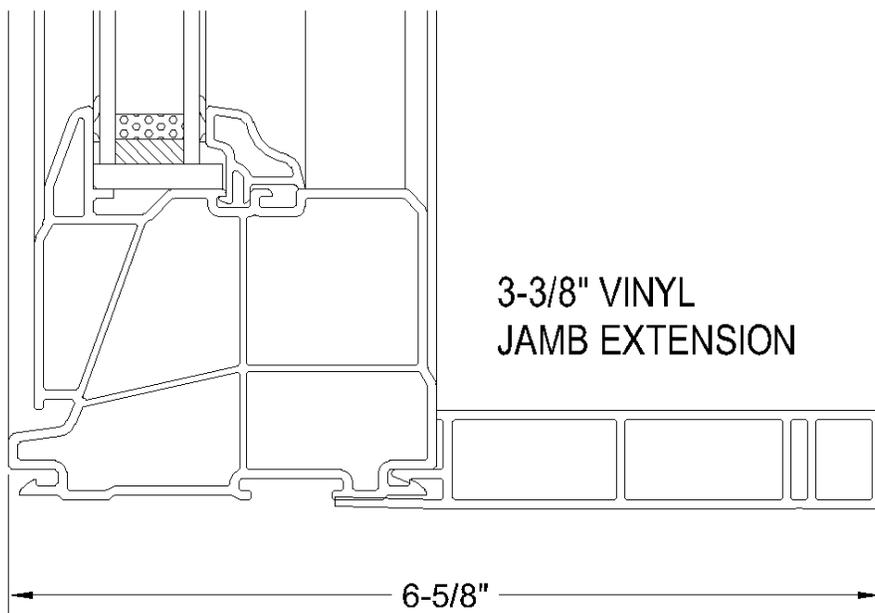
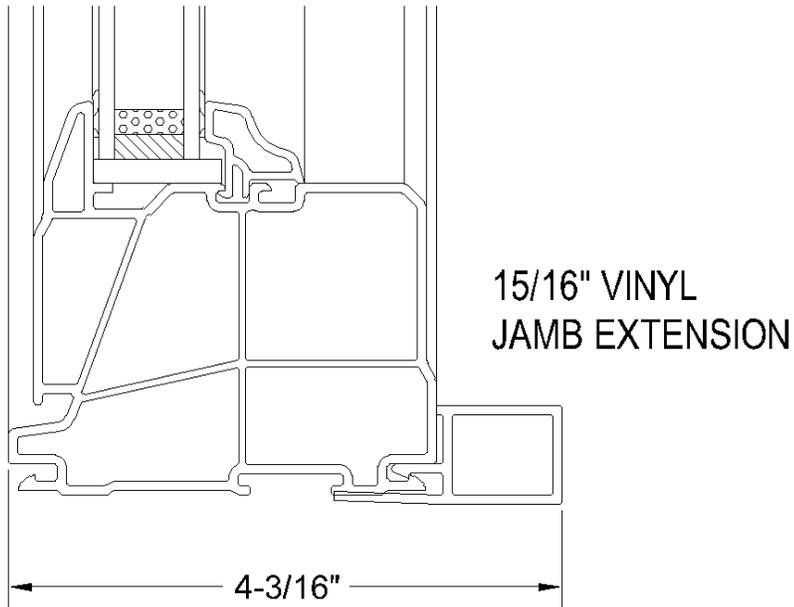


OPTIONAL PINE/OAK/FOAM/
VINYL WRAP AVAILABLE TO
8-3/8" MAX. DEPTH



1-3/8" VINYL
JAMB EXTENSION

1000 Series - Jamb Extensions



JAMB EXTENSIONS:

*** AVAILABLE**

Jamb Extension	Total Jamb Depth		Vinyl Wrapped MDF		*Oak Veneer		Primed With White Wood Return
	With Nail Fin	With Brickmold	White	Stainable/ Paintable or Kolonial Oak	With White Wood Return	With Laminate Interior Wood Return	
Up to 2-1/8"	3-3/16" to 4-5/16"	4-7/16" to 5-9/16"	*	*	*	*	*
2-1/8" to 4-5/8"	4-5/16" to 6-13/16"	5-9/16" to 8-1/16"	*	*	*	*	*
4-5/8" to 8-3/8"	6-13/16" to 10-9/16"	8-1/16" to 11-13/16"	*	*	*	*	*

*Oak jamb extensions exceeding 12 ft. in length will be spliced
 Note: Total jamb depth (including window and extension) over 8-1/2" will have the extensions shipped loose. These will be pre-cut and pre-drilled for simple jobsite application. Wood return will be attached to the window.

Extruded Vinyl Jamb Extension					
Jamb Extension	Total Jamb Depth		White	Stainable/Paintable or Kolonial Oak	Espresso
	With Nail Fin	With Brickmold			
15/16"	5-15/16"	4-1/8"	*	*	*
1-3/8"	3-3/8"	4-1/2"	*	*	*
3-3/8"	5-3/8"	6-1/2"	*	*	*

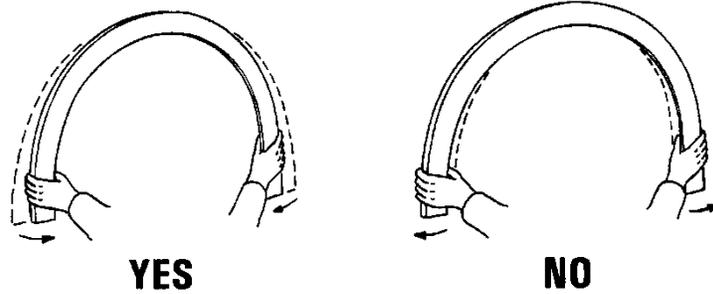
Foam Board PVC Jamb Extension					
Jamb Extension	Total Jamb Depth		White	Stainable/Paintable or Kolonial Oak	Espresso
	With Nail Fin	With Brickmold			
Up to 3-5/8"	3-3/16" to 5-13/16"	4-7/16" to 7-1/16"	*	*	*
3-5/8" to 7-7/16"	5-13/16" to 9-5/8"	7-1/16" to 10-7/8"	*	*	*

Note: Total jamb depth (including window and extension) over 8-1/2" will have the extensions shipped loose. These will be pre-cut and pre-drilled for simple jobsite application. Wood return will be attached to the window.

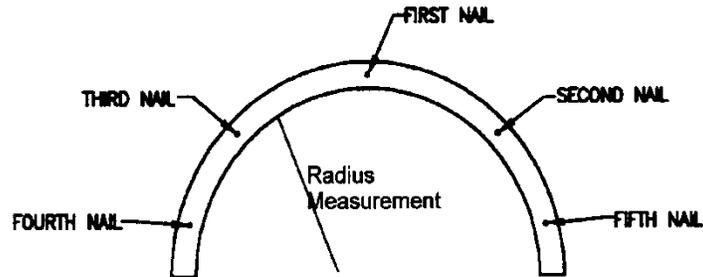
Note: Espresso laminate jamb extensions are available on espresso interior/espresso exterior select product orders (pictures with or without sash, casements, awnings and patio doors).

Curved Jamb Extension

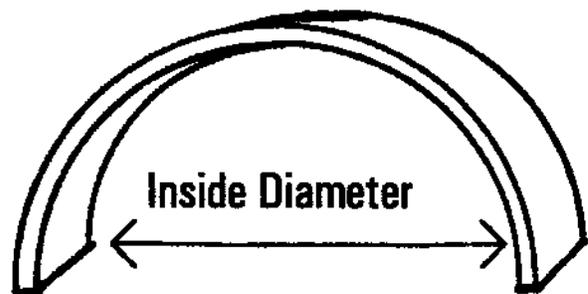
The nature of a laminated jamb extension allows for a certain amount of inward flexing to adjust the size, but **DO NOT spring it outward**, or it will delaminate.



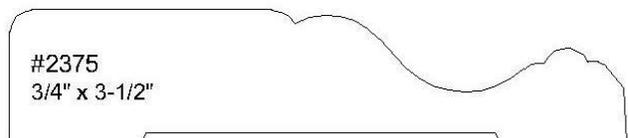
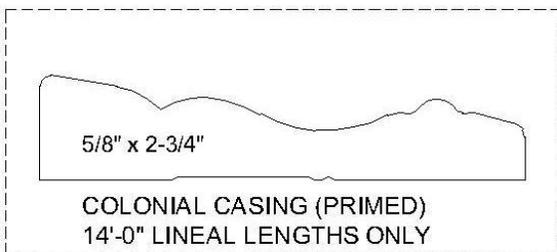
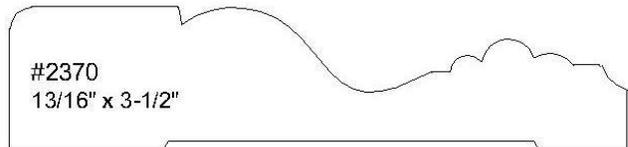
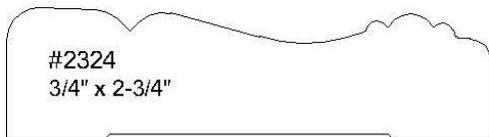
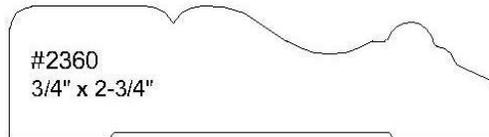
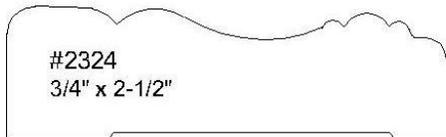
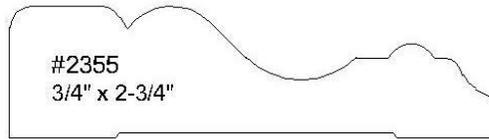
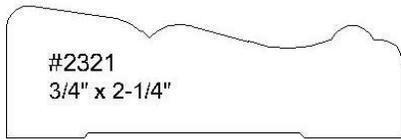
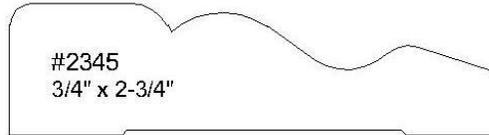
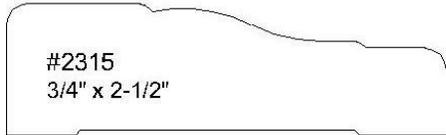
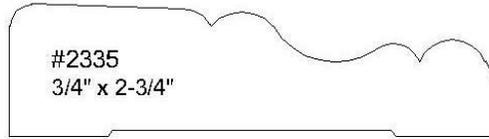
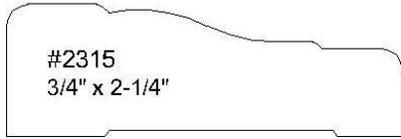
The first nail should be installed at the center top of the jamb extension so that you can control the fit. Then nail alternately from right to left. This allows an even balance so that the jamb extension can be adjusted to fit, if necessary.



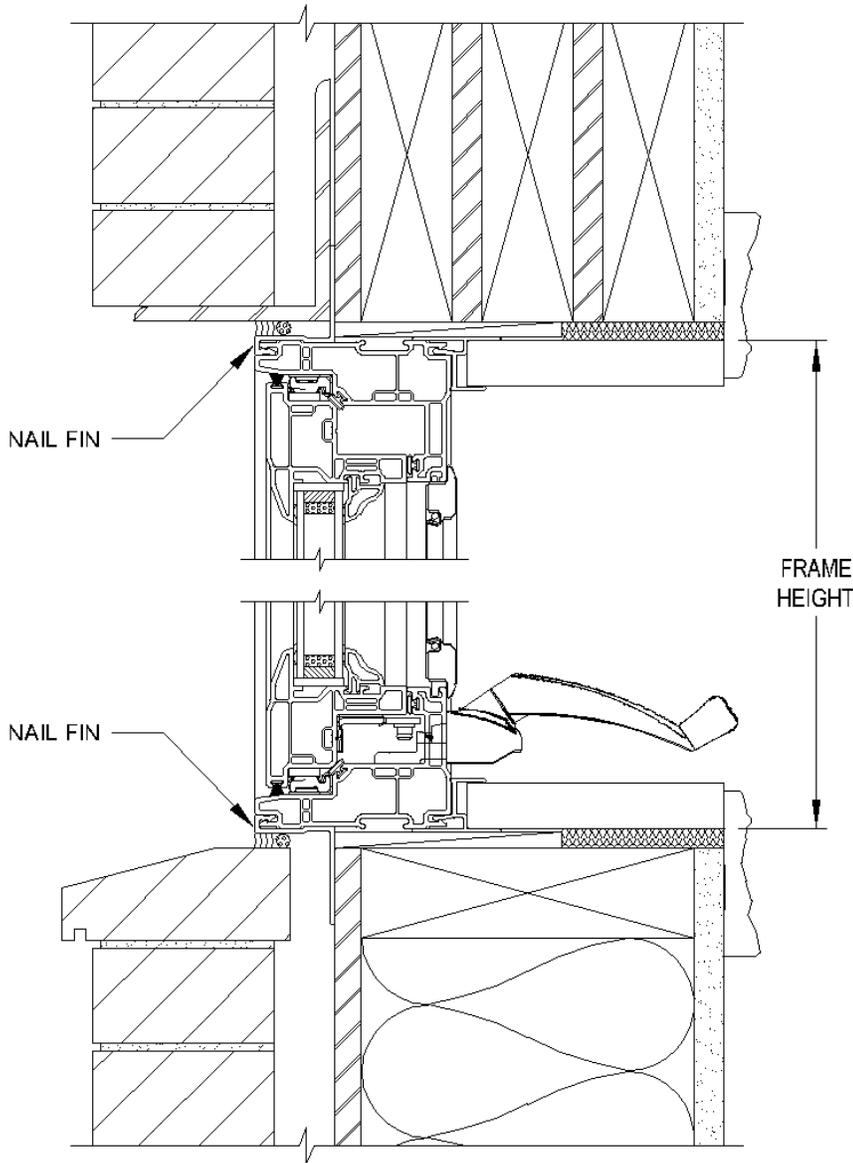
INWARD FLEX CHART FOR JAMB EXTENSION	
Inside Diameter	Flex In
18" to 26"	3/4"
27" to 36"	7/8"
37" to 46"	1"
47" to 66"	1-1/8"
67" to 94-1/2"	1-1/4"



Wood Trim Profiles



1171 Casement (With Nail Fin) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

DRIP CAP RECOMMENDED, SEAL BEHIND AND UNDERNEATH

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

WHEN RIGID INSULATION OR OTHER COMPRESSIBLE SHEATHING MATERIAL IS USED, PROVIDE SOLID BLOCKING FOR FIN ATTACHMENT

DETAILS SHOWN ARE NOT INTENDED TO REFLECT COMPLETE INSTALLATION PROCEDURES, BUT DO REFLECT BASIC INSTALLATION CONCEPTS

1171 Casement (With 1/2" Brickmold) In Brick Wall

PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

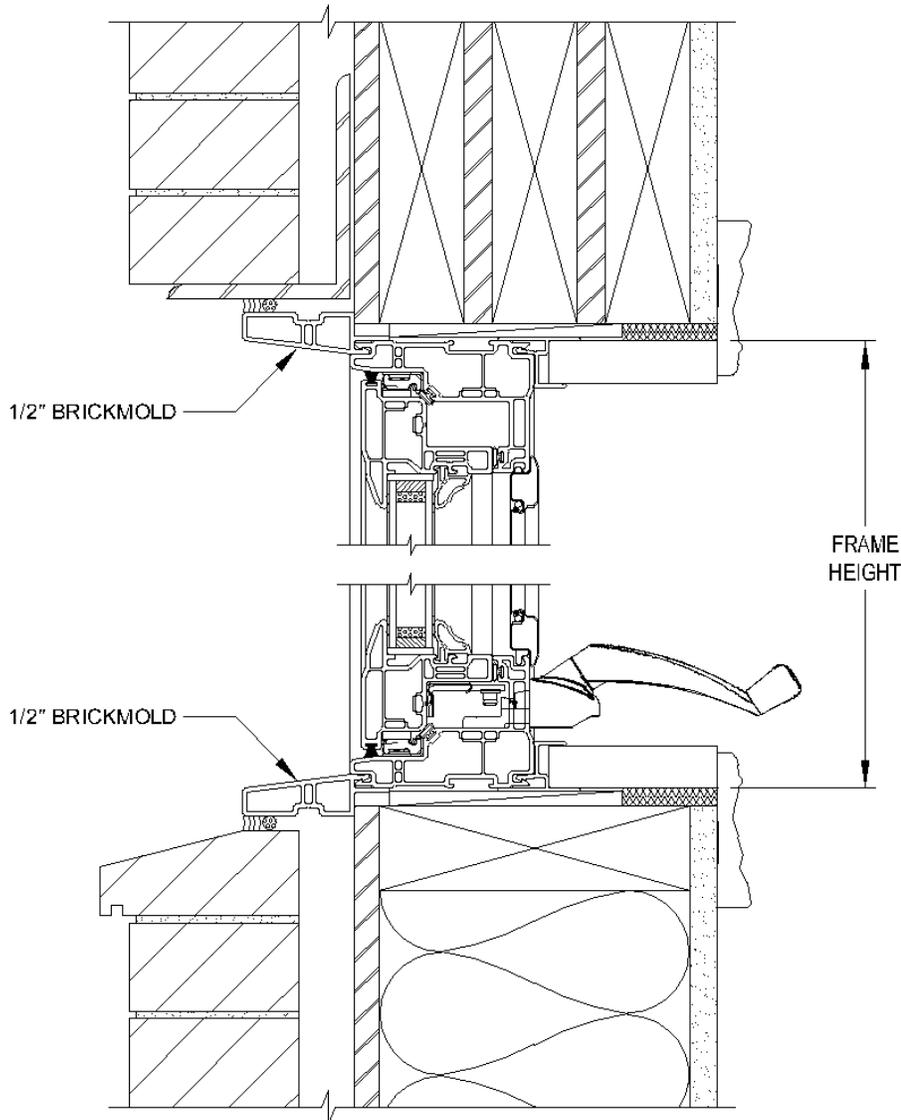
SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

DRIP CAP RECOMMENDED, SEAL BEHIND AND UNDERNEATH

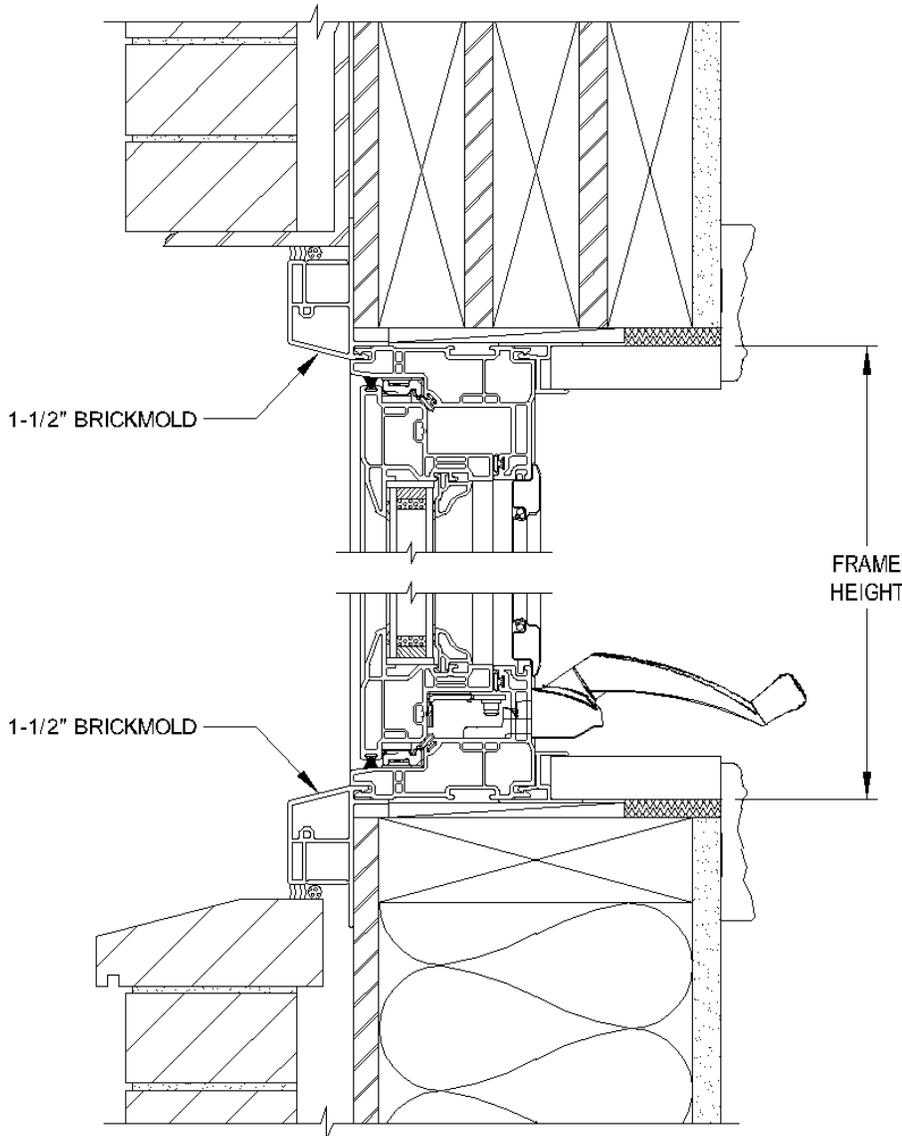
FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

WHEN RIGID INSULATION OR OTHER COMPRESSIBLE SHEATHING MATERIAL IS USED, PROVIDE SOLID BLOCKING FOR FIN ATTACHMENT

DETAILS SHOWN ARE NOT INTENDED TO REFLECT COMPLETE INSTALLATION PROCEDURES, BUT DO REFLECT BASIC INSTALLATION CONCEPTS



1171 Casement (With 1-1/2" Brickmold) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

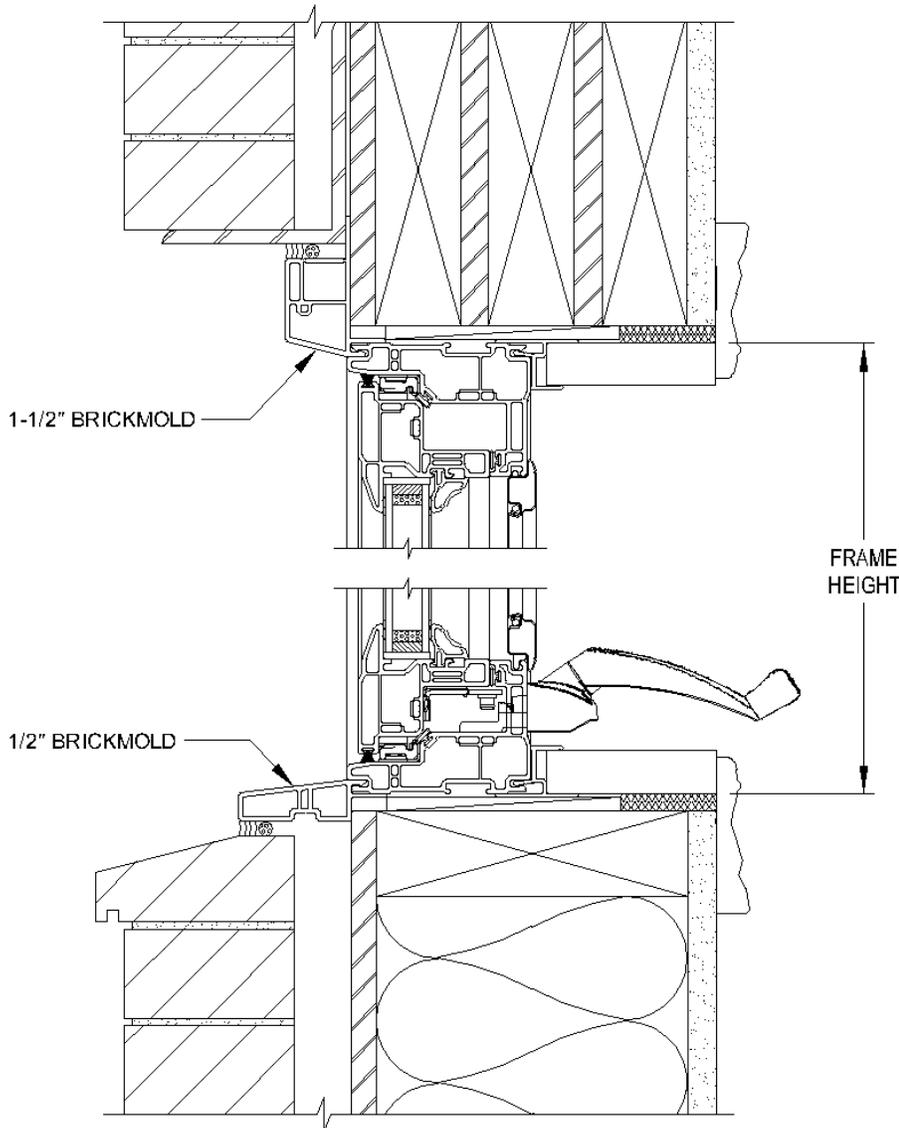
DRIP CAP RECOMMENDED, SEAL BEHIND AND UNDERNEATH

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

WHEN RIGID INSULATION OR OTHER COMPRESSIBLE SHEATHING MATERIAL IS USED, PROVIDE SOLID BLOCKING FOR FIN ATTACHMENT

DETAILS SHOWN ARE NOT INTENDED TO REFLECT COMPLETE INSTALLATION PROCEDURES, BUT DO REFLECT BASIC INSTALLATION CONCEPTS

1171 Casement (With 1-1/2" Brickmold & Sillnose) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

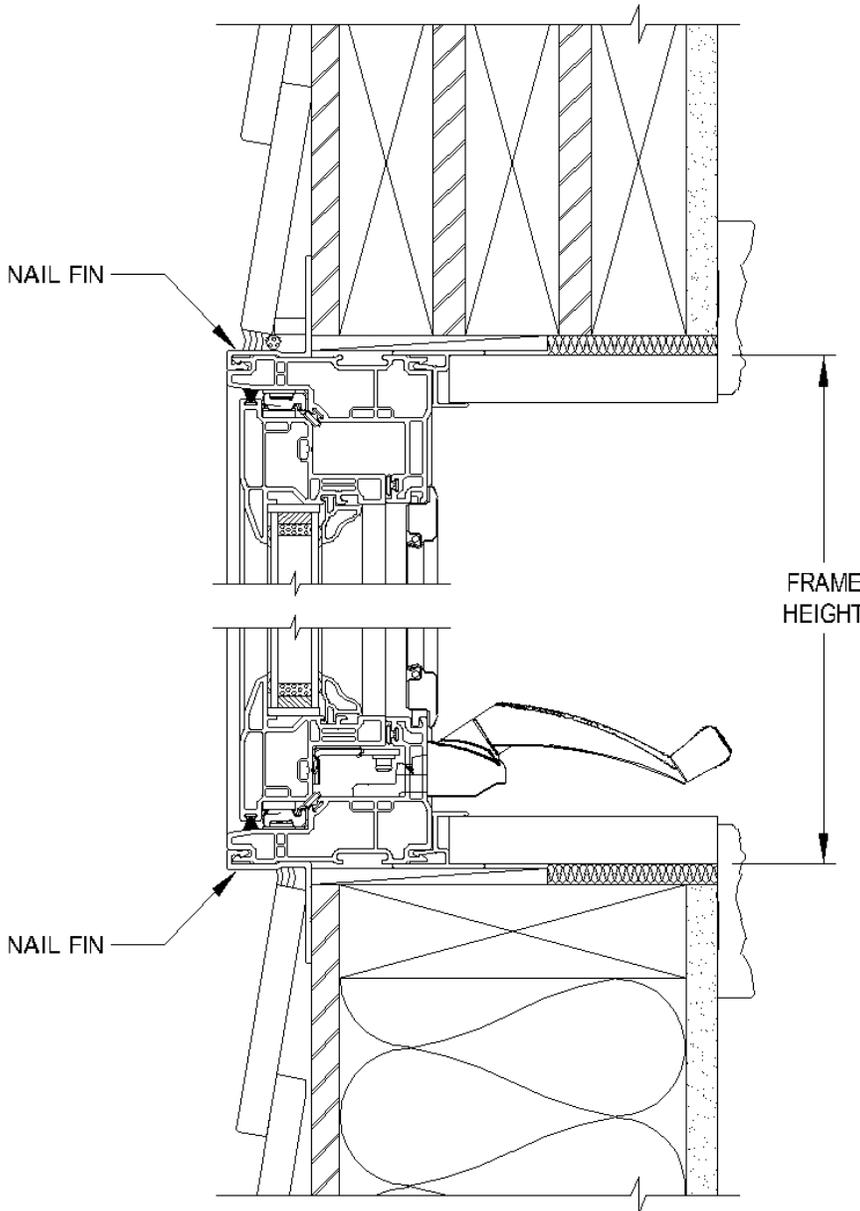
DRIP CAP RECOMMENDED, SEAL BEHIND AND UNDERNEATH

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

WHEN RIGID INSULATION OR OTHER COMPRESSIBLE SHEATHING MATERIAL IS USED, PROVIDE SOLID BLOCKING FOR FIN ATTACHMENT

DETAILS SHOWN ARE NOT INTENDED TO REFLECT COMPLETE INSTALLATION PROCEDURES, BUT DO REFLECT BASIC INSTALLATION CONCEPTS

1171 Casement (With Nail Fin) In Wall (With Siding)



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

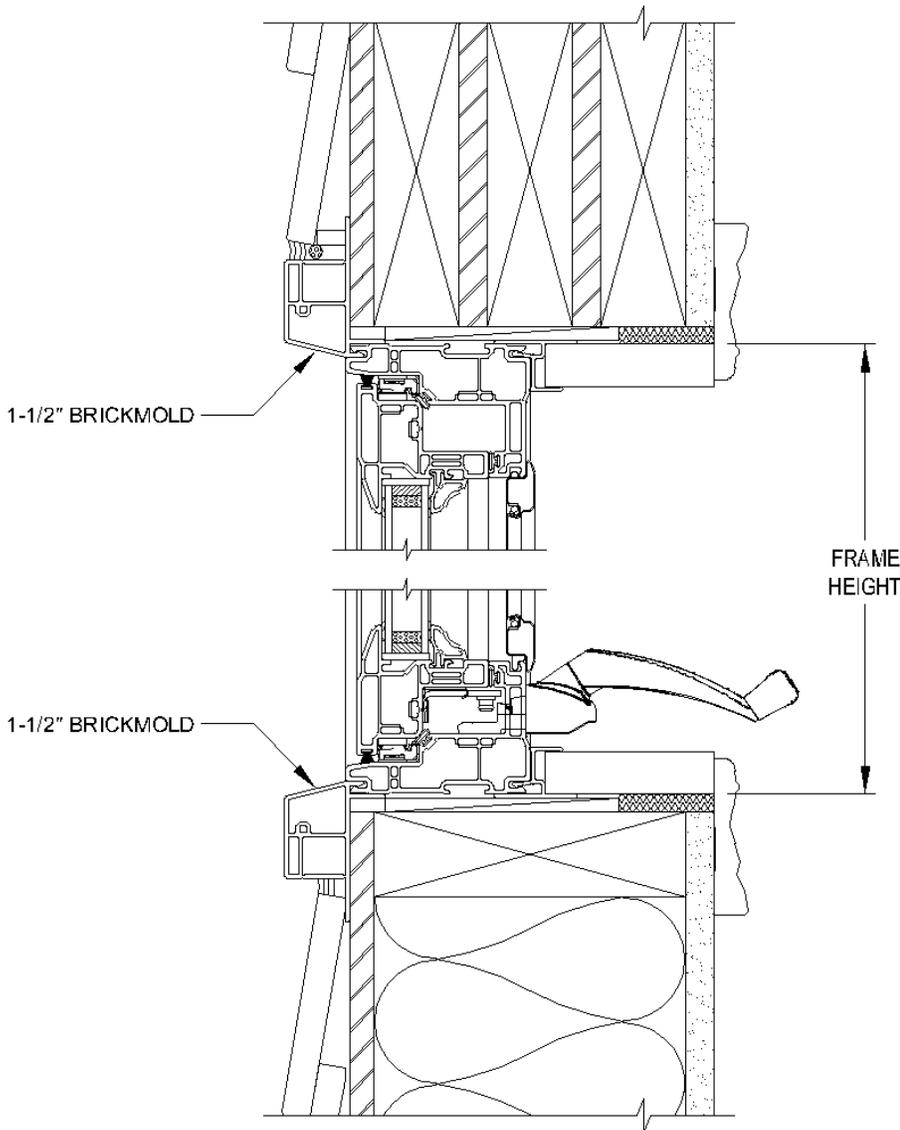
DRIP CAP AND "J" TRIM RECOMMENDED, SEAL BEHIND AND UNDERNEATH

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

WHEN RIGID INSULATION OR OTHER COMPRESSIBLE SHEATHING MATERIAL IS USED, PROVIDE SOLID BLOCKING FOR FIN ATTACHMENT

DETAILS SHOWN ARE NOT INTENDED TO REFLECT COMPLETE INSTALLATION PROCEDURES, BUT DO REFLECT BASIC INSTALLATION CONCEPTS

1171 Casement (With 1-1/2" Brickmold) In Wall (With Siding)



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

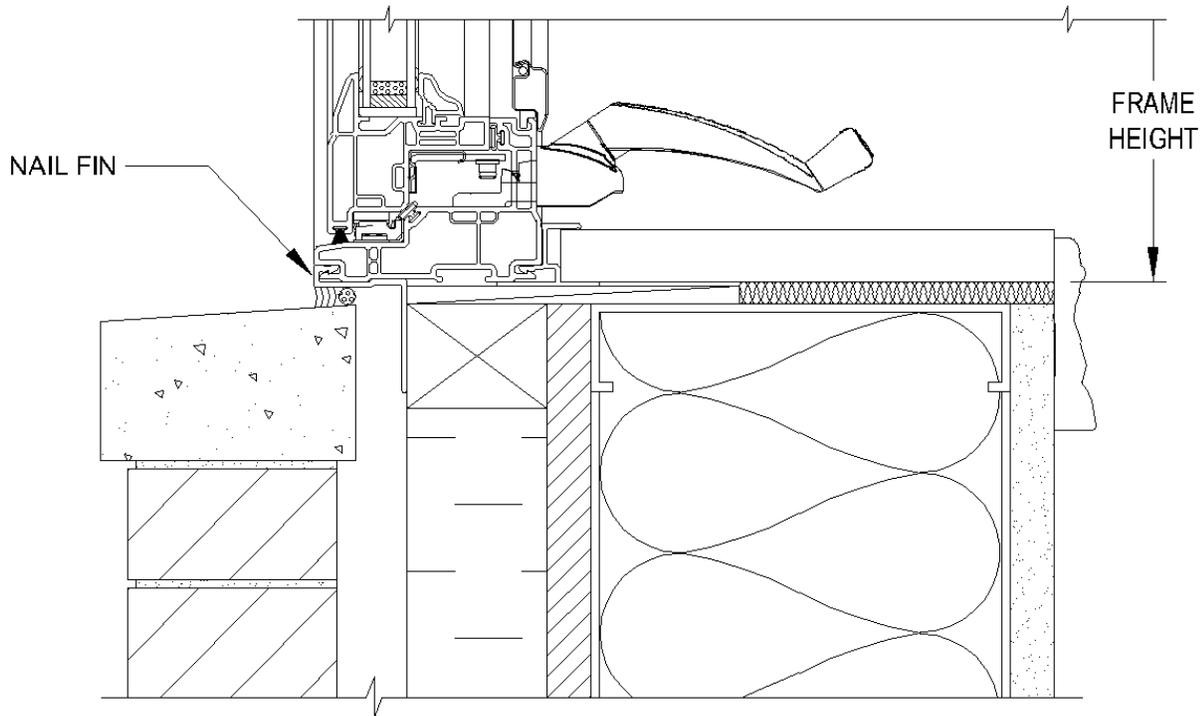
DRIP CAP AND "J" TRIM RECOMMENDED, SEAL BEHIND AND UNDERNEATH

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

WHEN RIGID INSULATION OR OTHER COMPRESSIBLE SHEATHING MATERIAL IS USED, PROVIDE SOLID BLOCKING FOR FIN ATTACHMENT

DETAILS SHOWN ARE NOT INTENDED TO REFLECT COMPLETE INSTALLATION PROCEDURES, BUT DO REFLECT BASIC INSTALLATION CONCEPTS

1171 Casement (With Nail Fin) In Stone Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

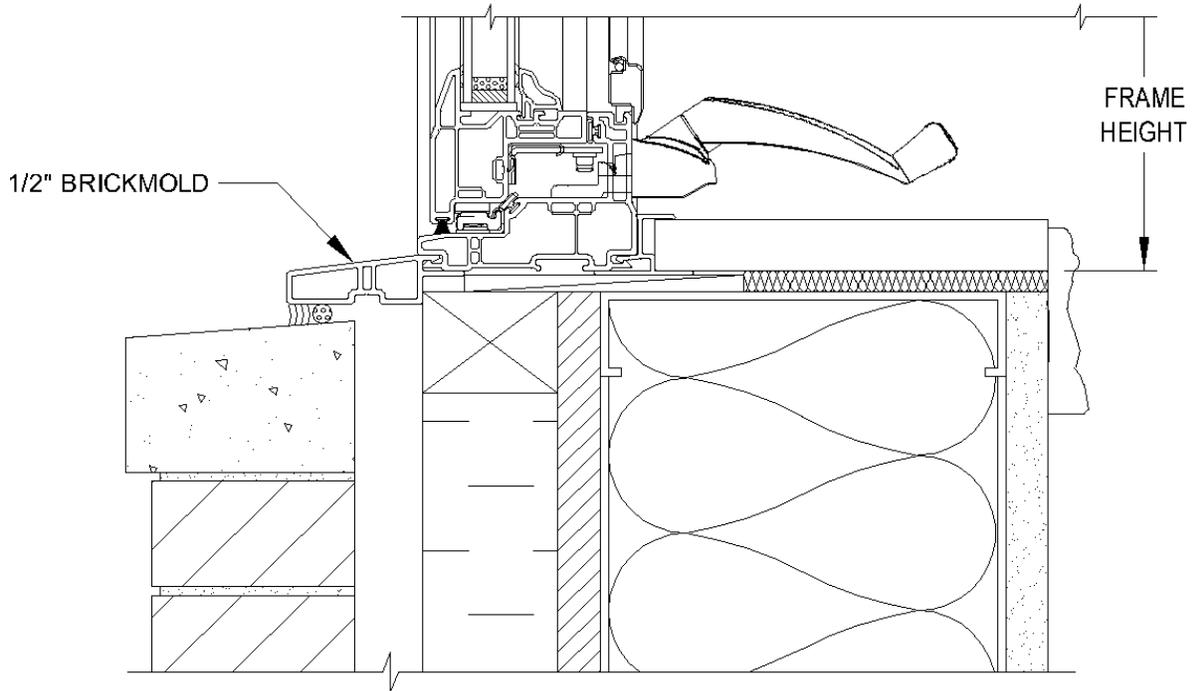
DRIP CAP RECOMMENDED, SEAL BEHIND AND UNDERNEATH

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

WHEN RIGID INSULATION OR OTHER COMPRESSIBLE SHEATHING MATERIAL IS USED, PROVIDE SOLID BLOCKING FOR FIN ATTACHMENT

DETAILS SHOWN ARE NOT INTENDED TO REFLECT COMPLETE INSTALLATION PROCEDURES, BUT DO REFLECT BASIC INSTALLATION CONCEPTS

1171 Casement (With 1/2" Brickmold) In Stone Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

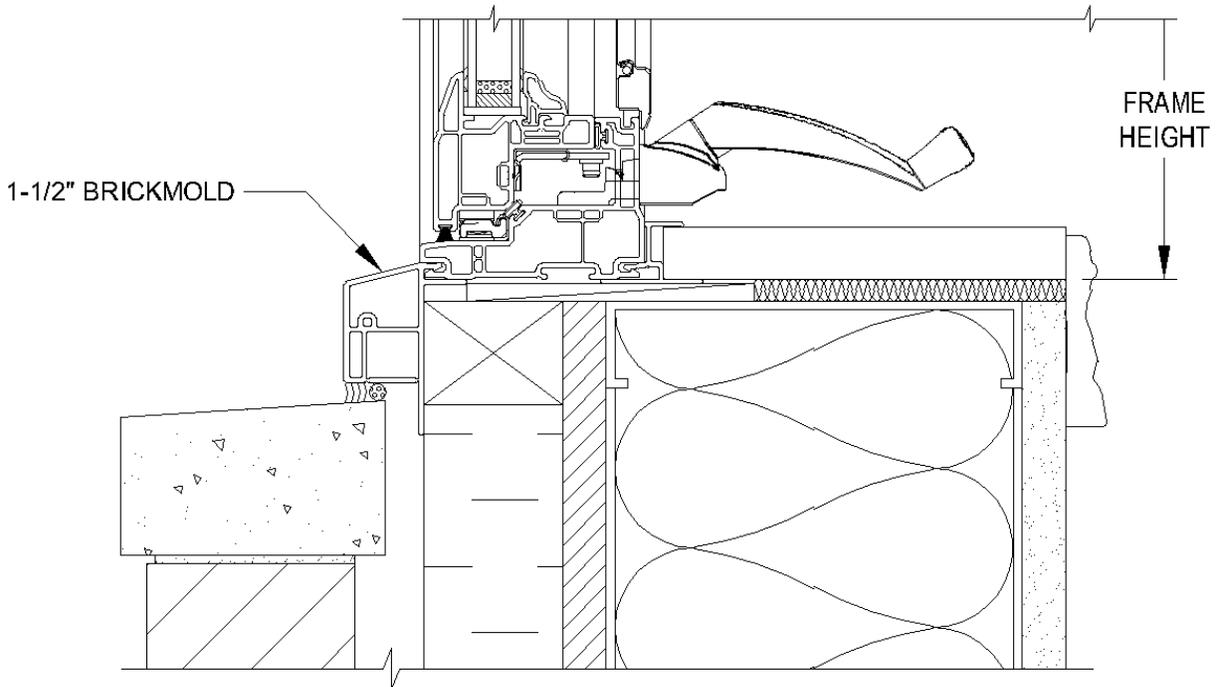
SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

WHEN RIGID INSULATION OR OTHER COMPRESSIBLE SHEATHING MATERIAL IS USED, PROVIDE SOLID BLOCKING FOR FIN ATTACHMENT

DRIP CAP RECOMMENDED, SEAL BEHIND AND UNDERNEATH

DETAILS SHOWN ARE NOT INTENDED TO REFLECT COMPLETE INSTALLATION PROCEDURES, BUT DO REFLECT BASIC INSTALLATION CONCEPTS

1171 Casement (With 1-1/2" Brickmold) In Stone Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

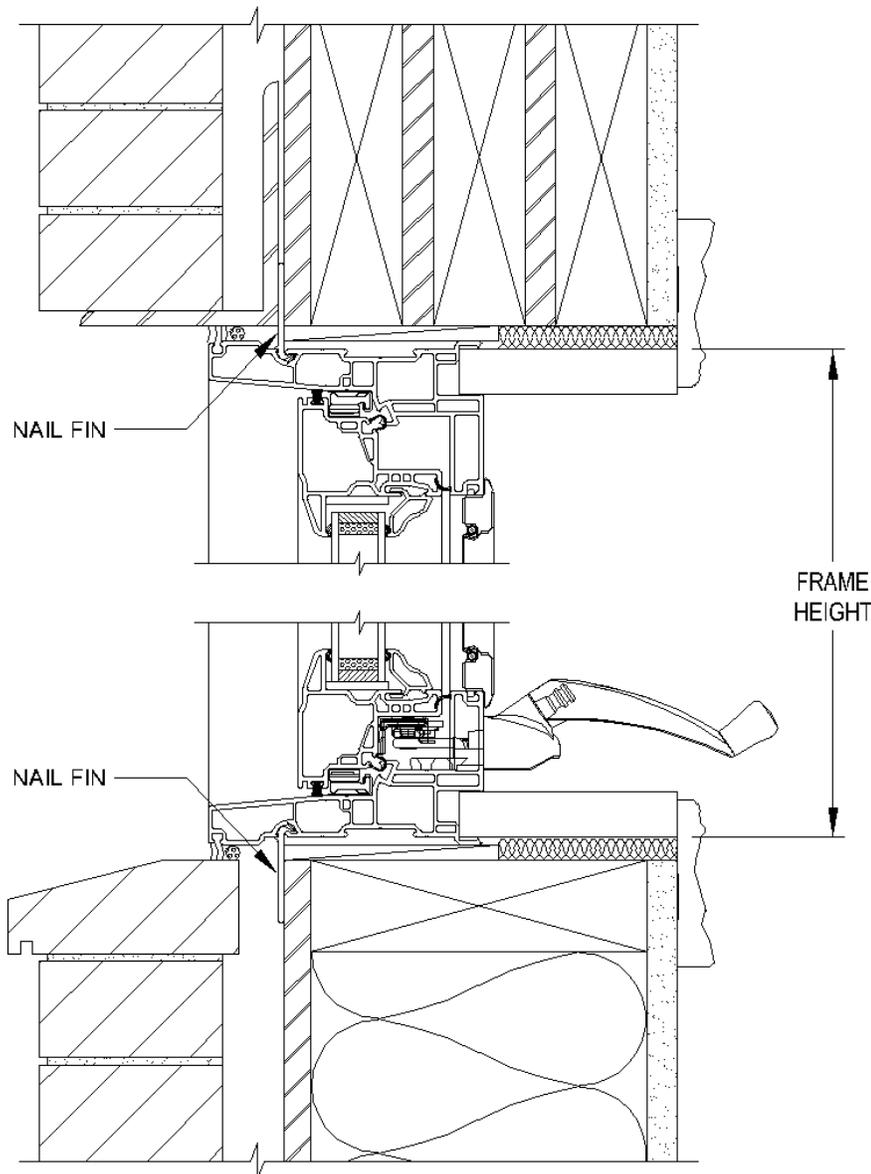
SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

WHEN RIGID INSULATION OR OTHER COMPRESSIBLE SHEATHING MATERIAL IS USED, PROVIDE SOLID BLOCKING FOR FIN ATTACHMENT

DRIP CAP RECOMMENDED, SEAL BEHIND AND UNDERNEATH

DETAILS SHOWN ARE NOT INTENDED TO REFLECT COMPLETE INSTALLATION PROCEDURES, BUT DO REFLECT BASIC INSTALLATION CONCEPTS

4171 Casement (With Nail Fin) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

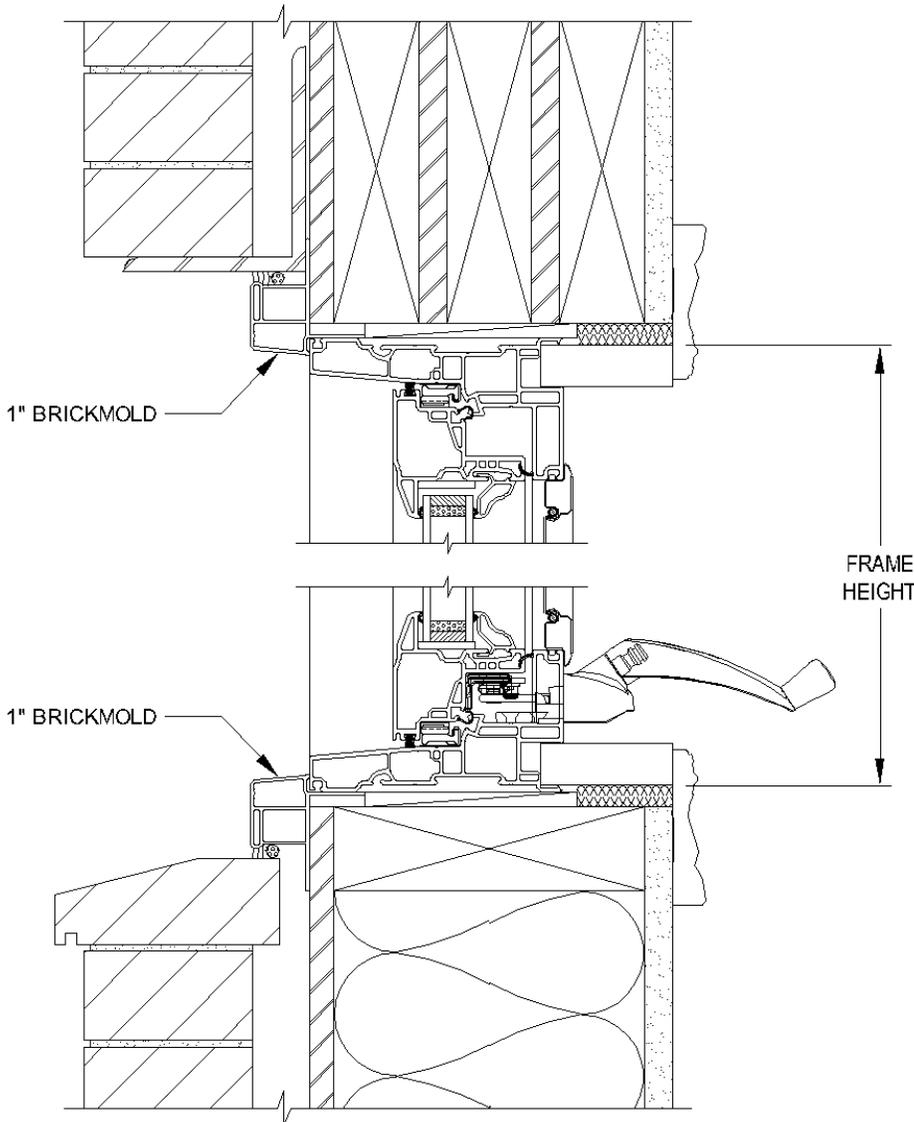
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4171 Casement (With 1" Brickmold) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

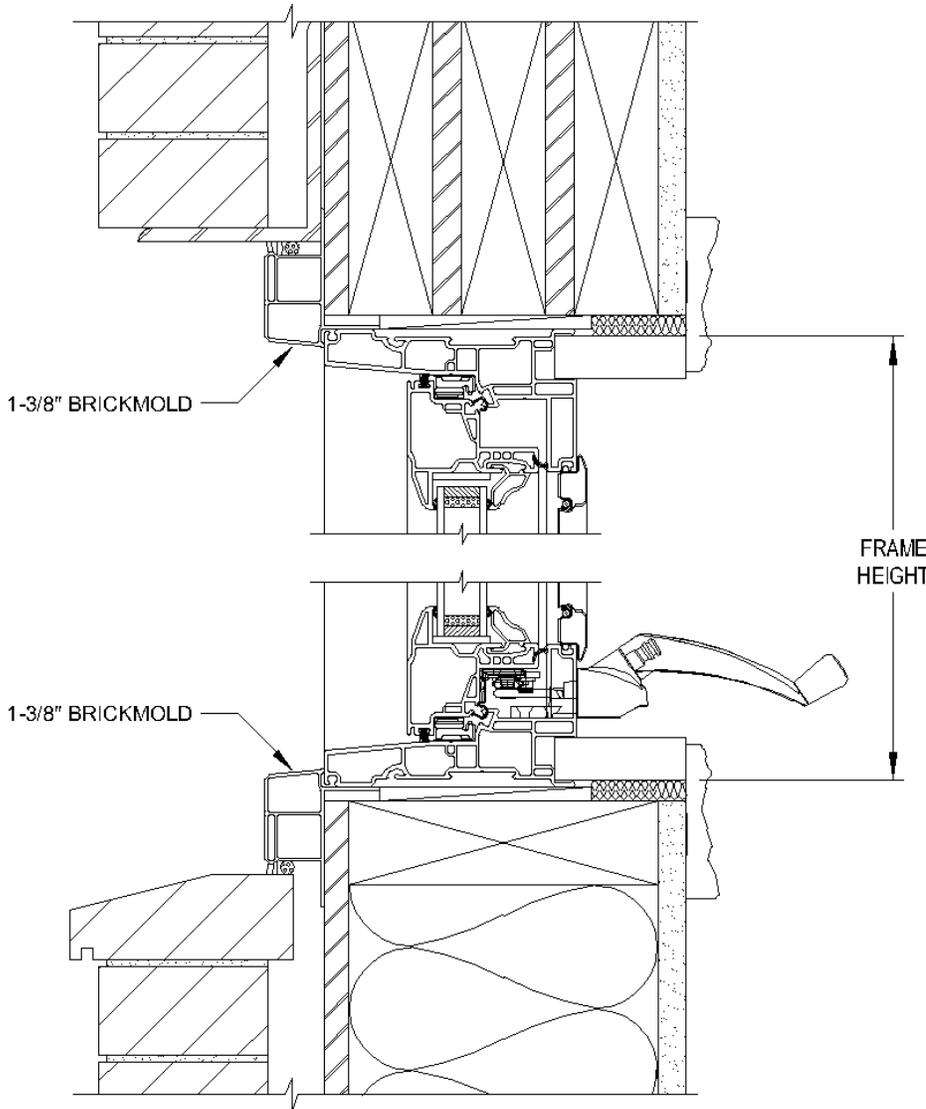
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4171 Casement (With 1-3/8" Brickmold) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

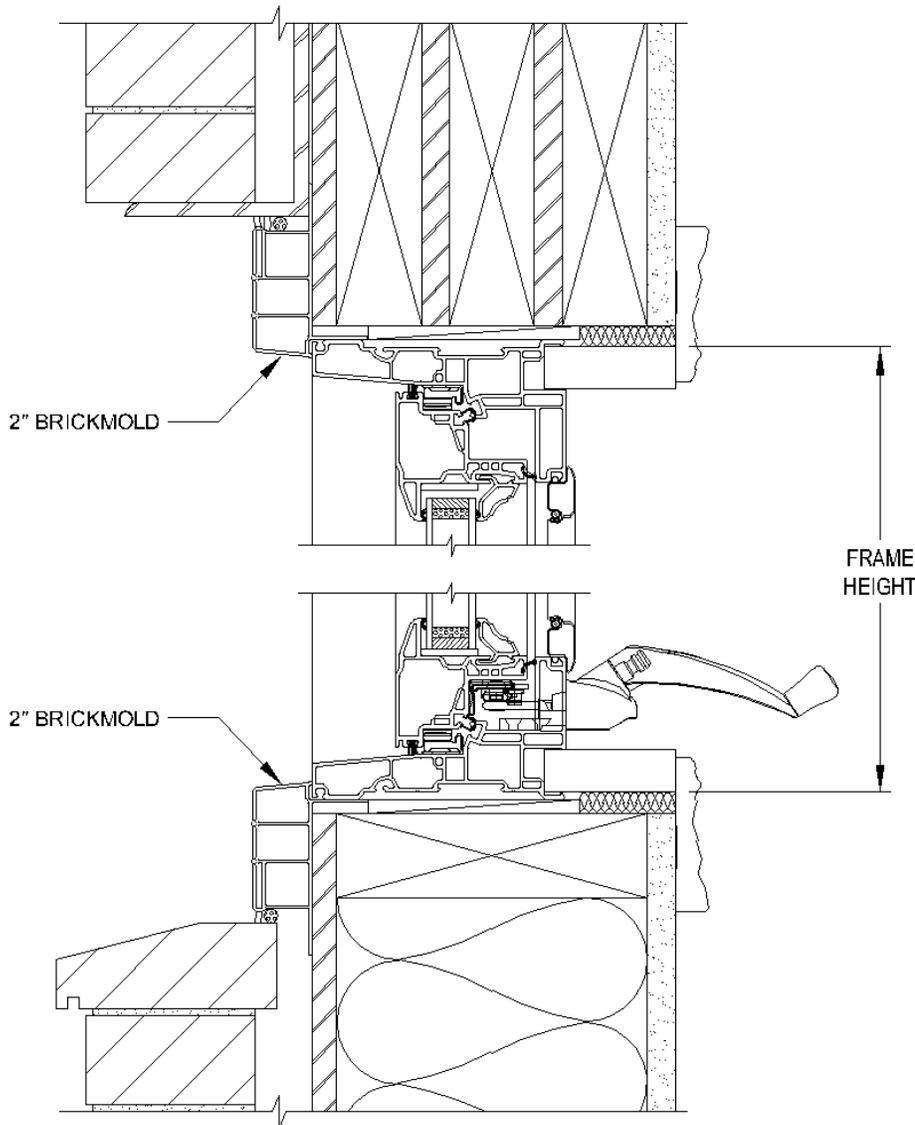
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4171 Casement (With 2" Brickmold) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

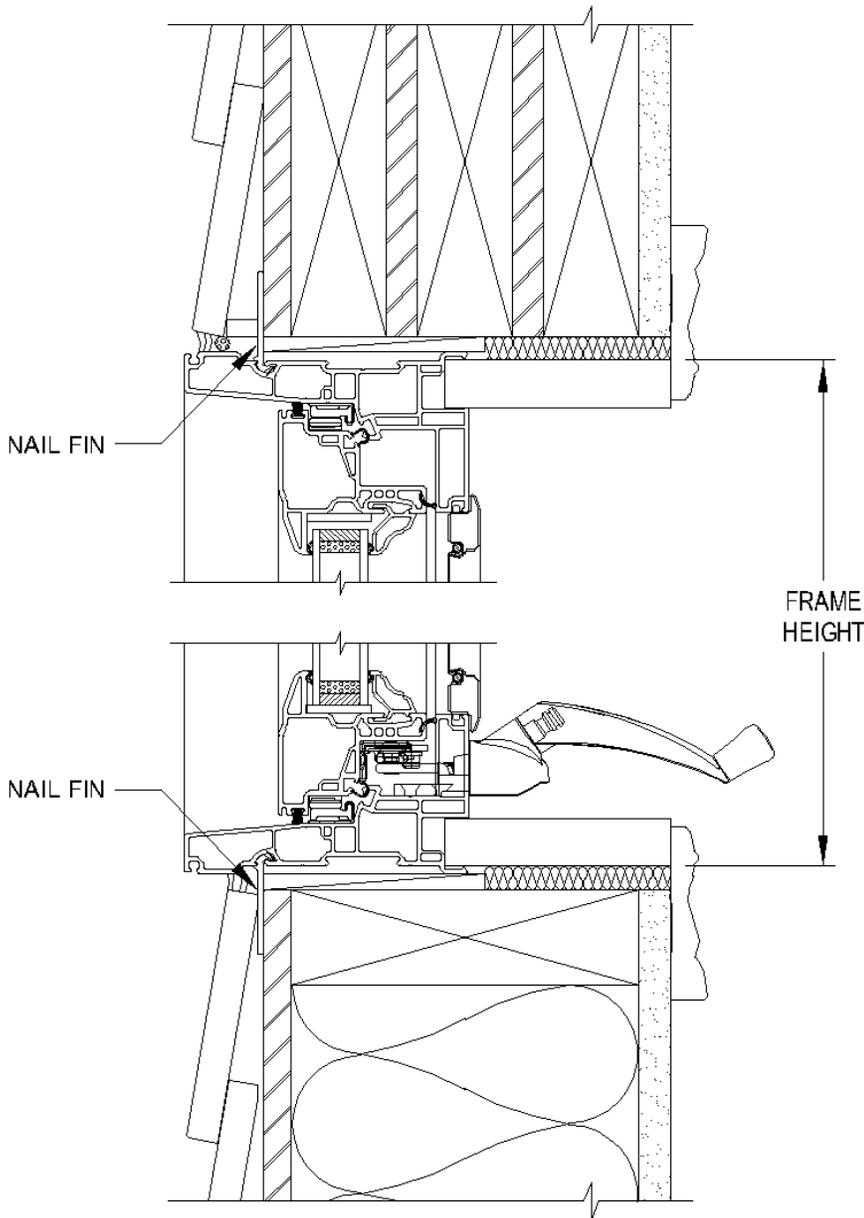
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4171 Casement (With Nail Fin) In Wall (With Siding)



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

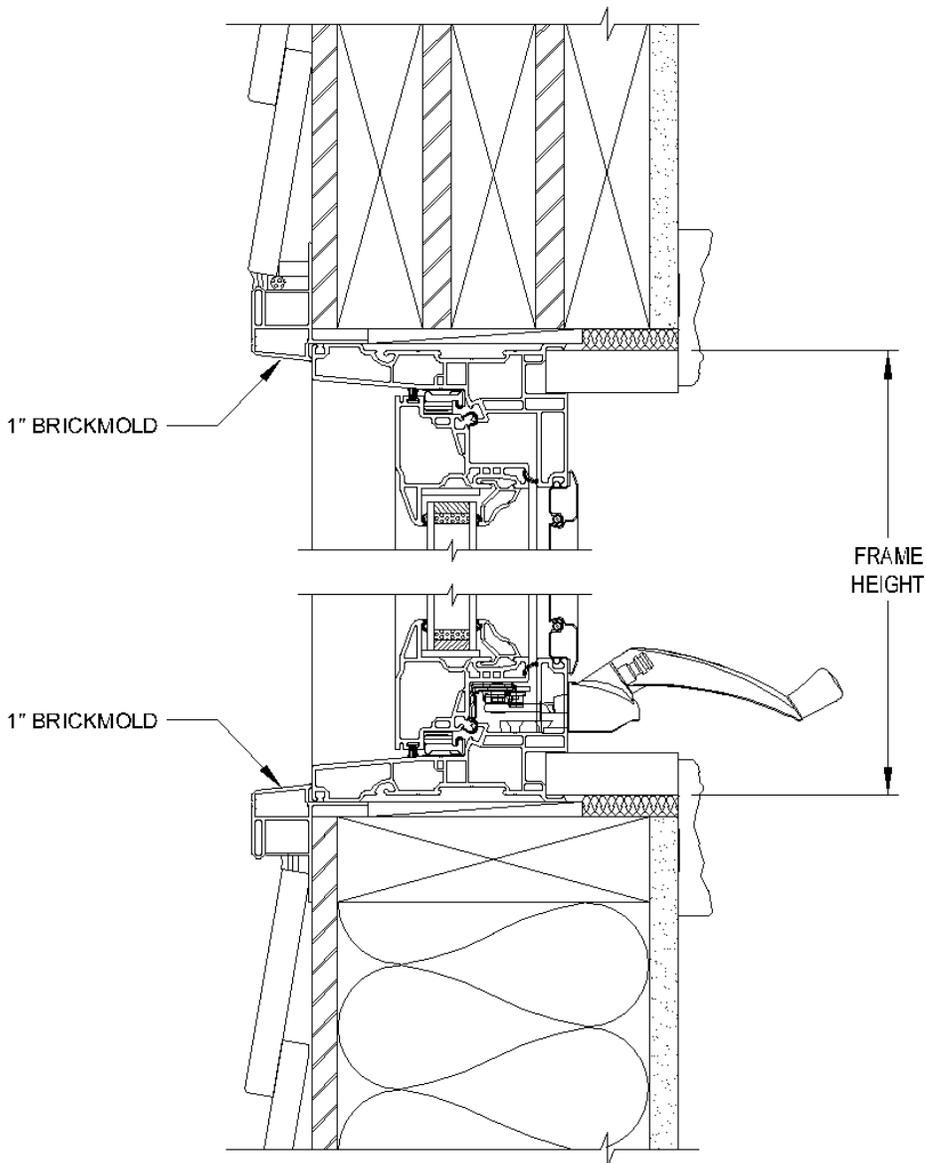
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4171 Casement (With 1" Brickmold) In Wall (With Siding)



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

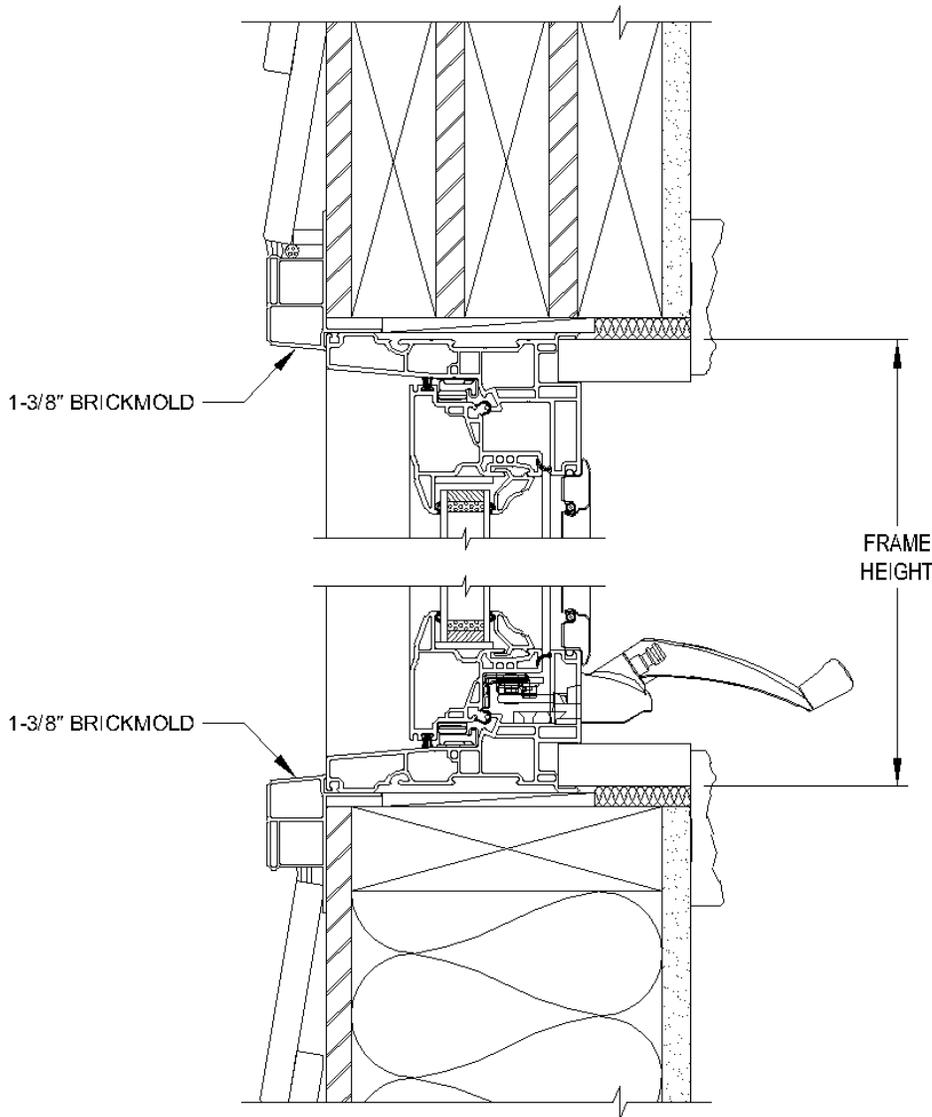
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4171 Casement (With 1-3/8" Brickmold) In Wall (With Siding)



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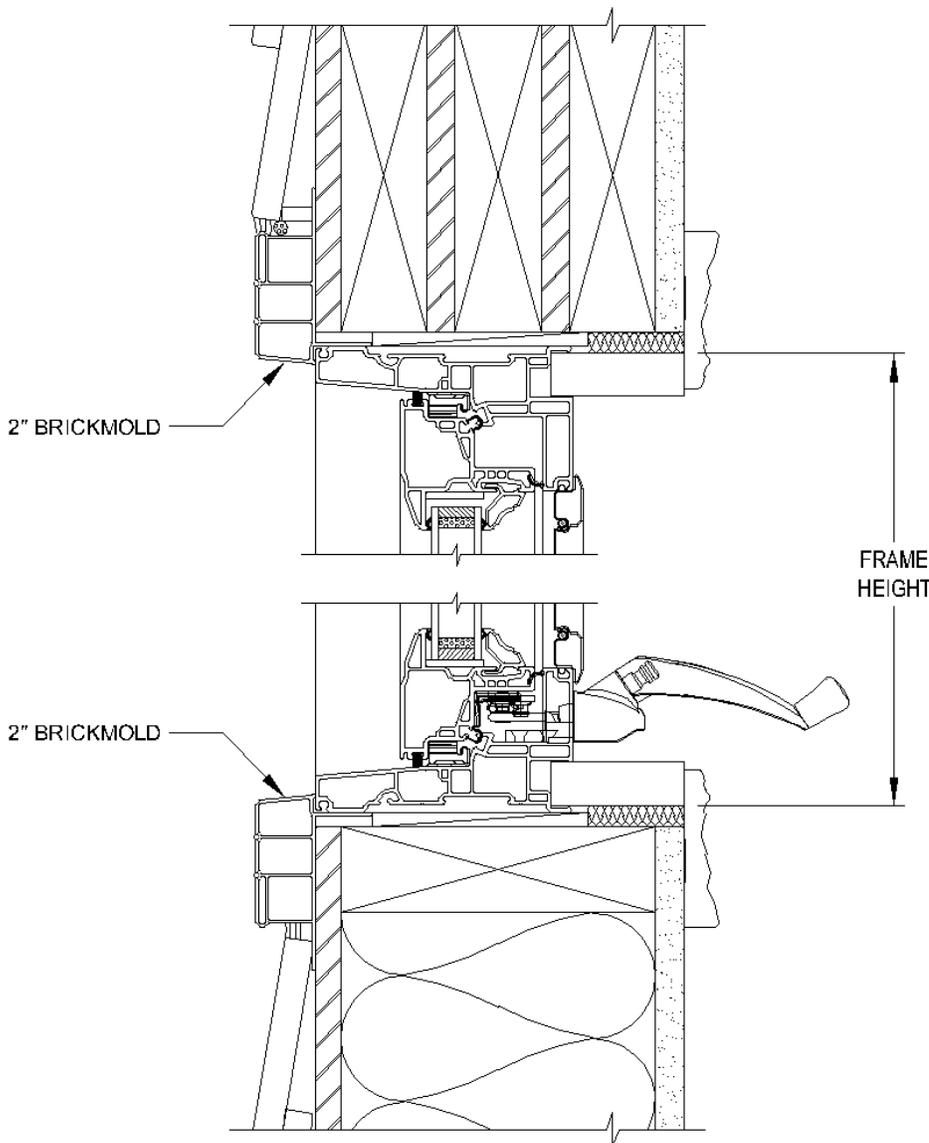
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4171 Casement (With 2" Brickmold) In Wall (With Siding)



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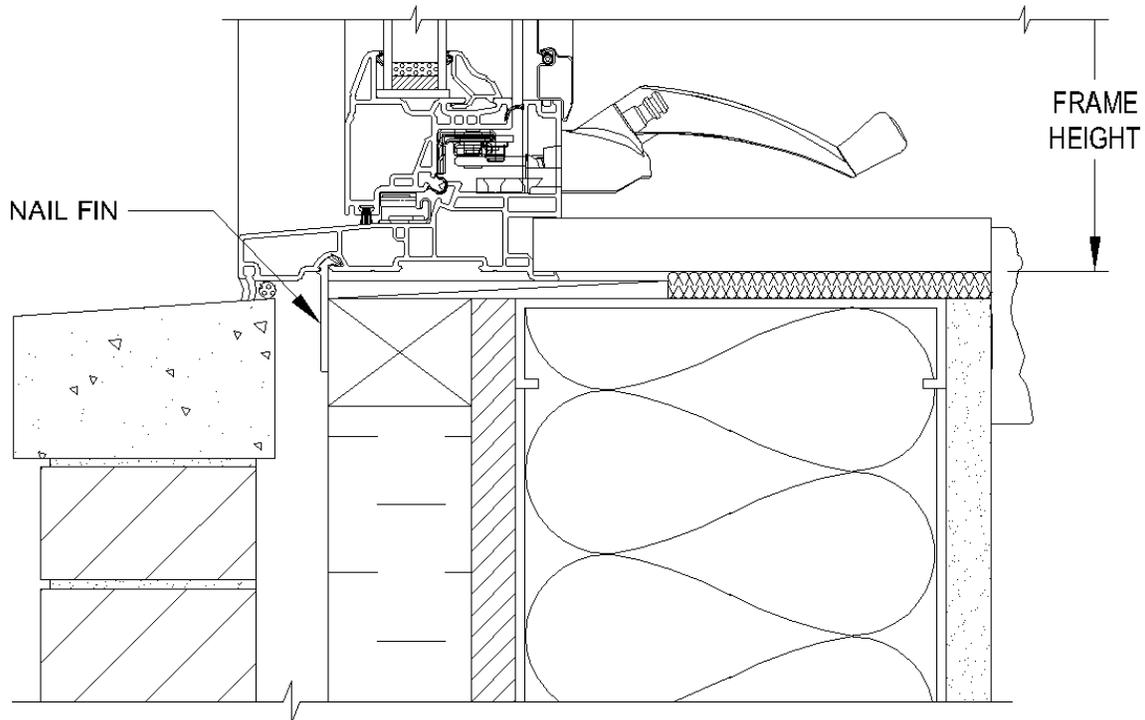
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4171 Casement (With Nail Fin) In Stone Wall



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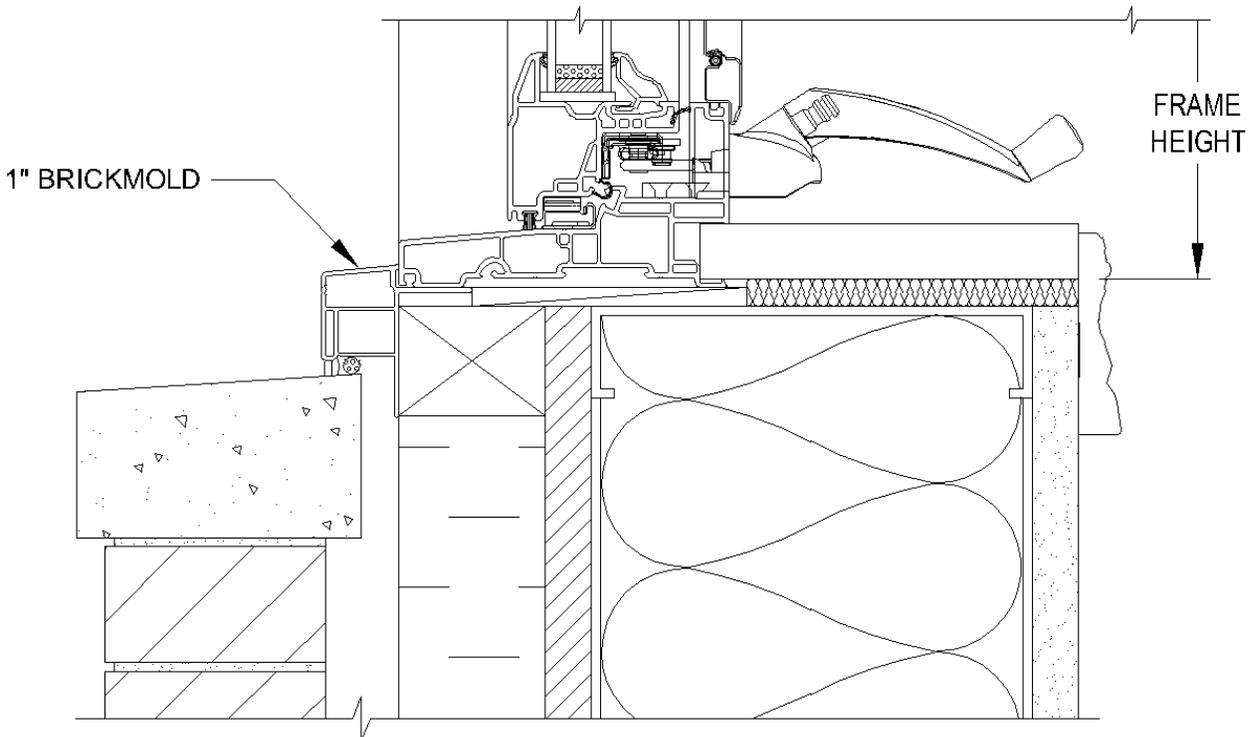
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4171 Casement (With 1" Brickmold) In Stone Wall



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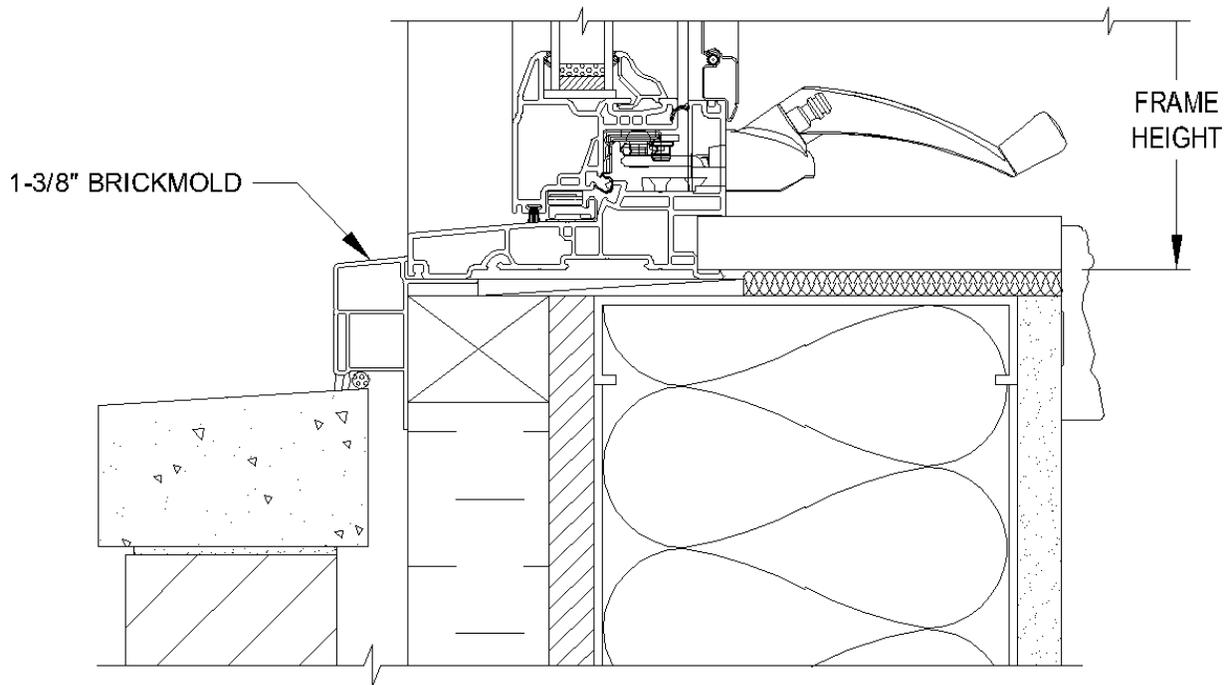
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4171 Casement (With 1-3/8" Brickmold) In Stone Wall



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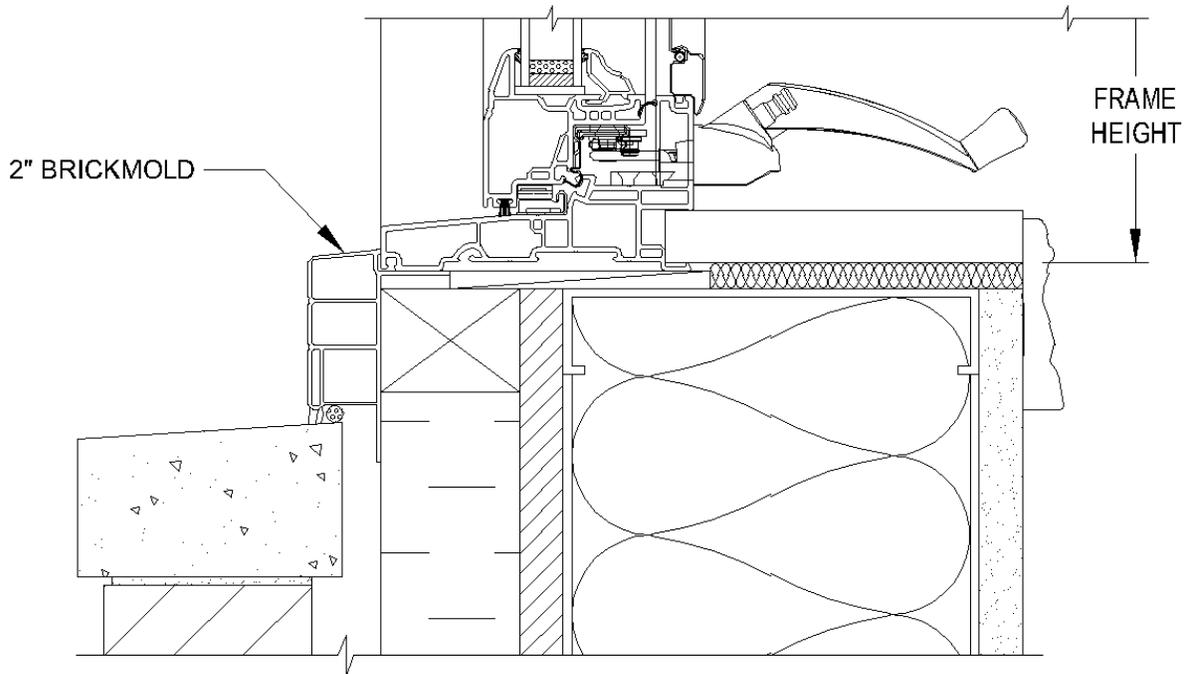
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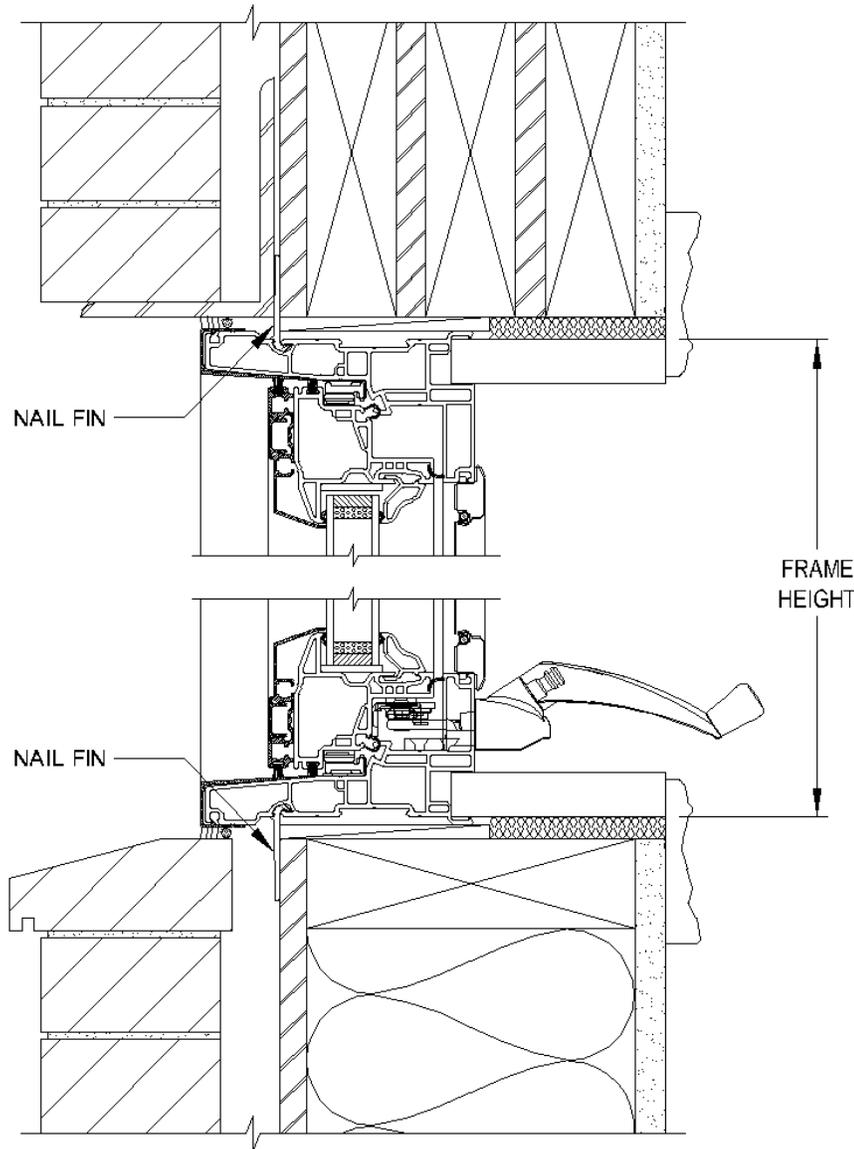
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4171 Hybrid Casement (With Nail Fin) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

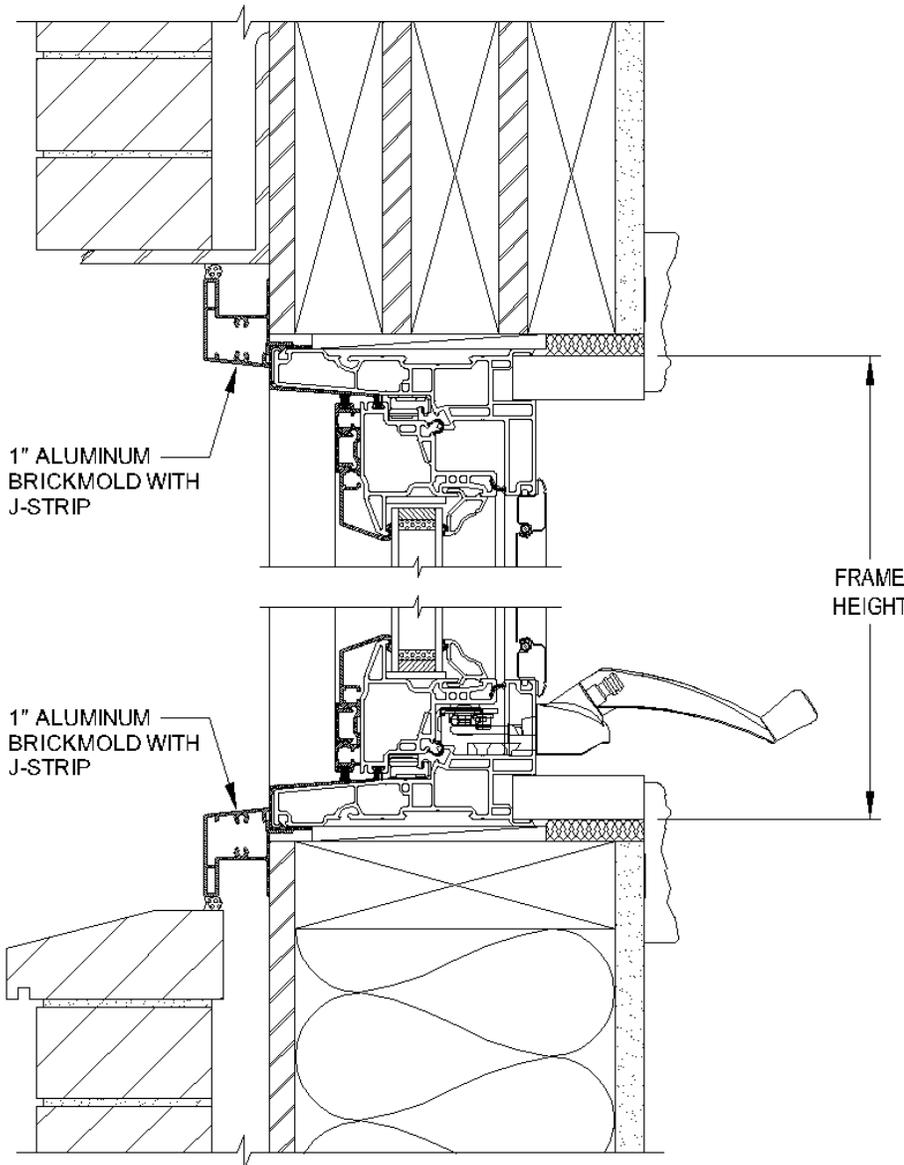
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4171 Hybrid Casement (With 1" Brickmold with J-Strip) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

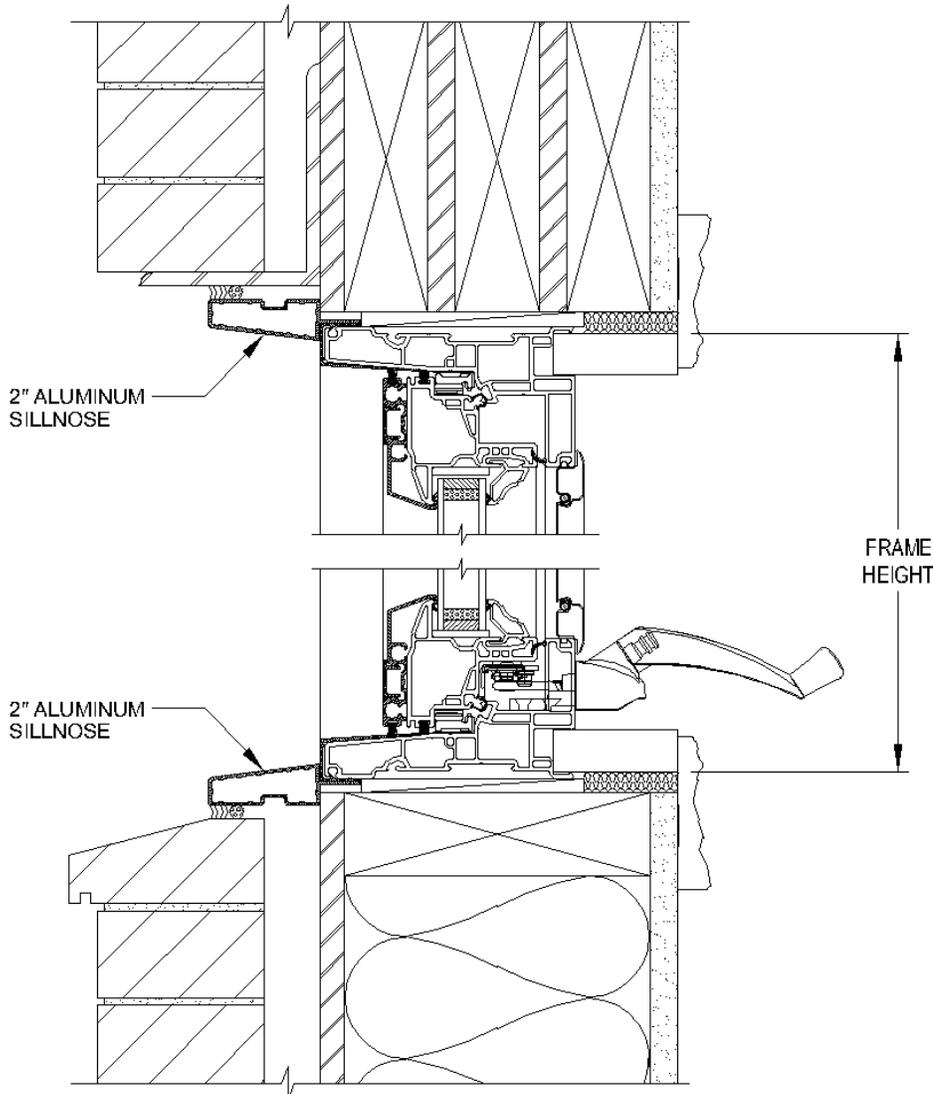
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4171 Hybrid Casement (With 2" Sillnose) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

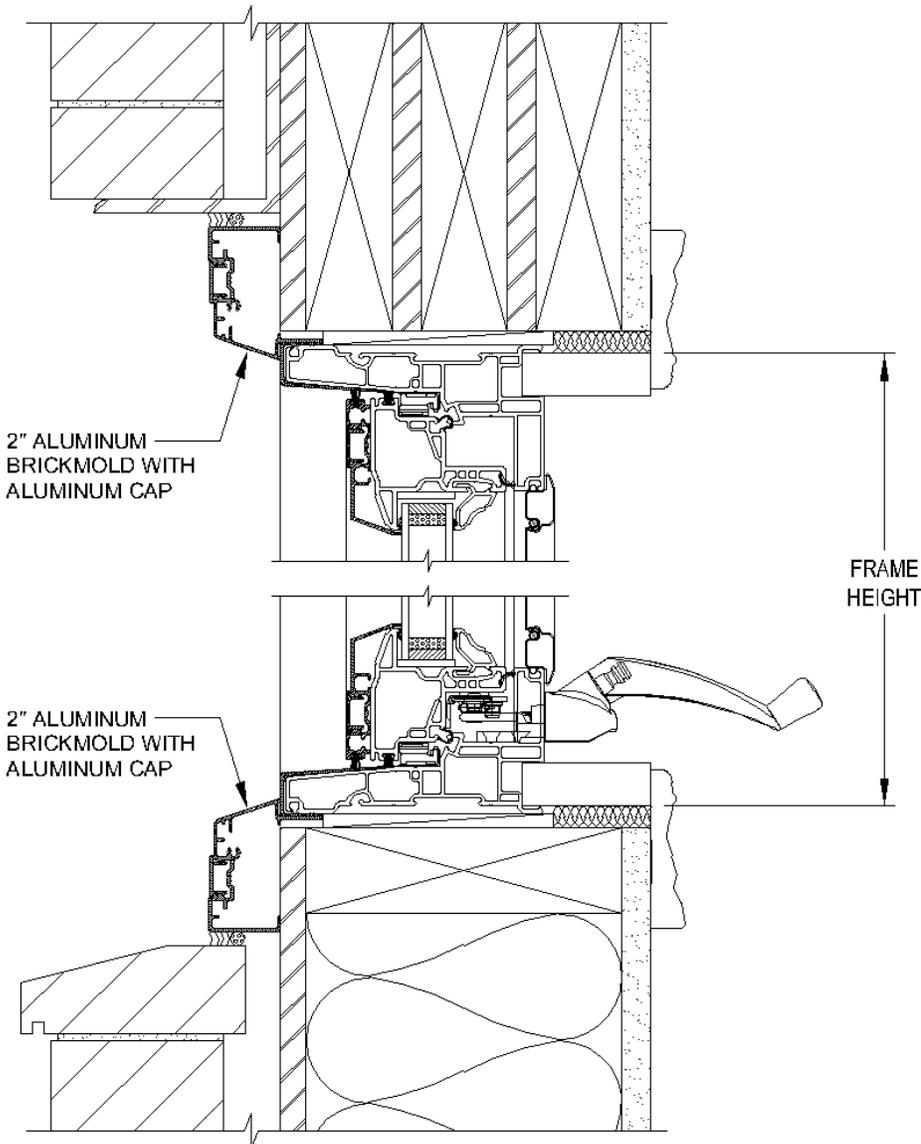
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4171 Hybrid Casement (With 2" Brickmold with Cap) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

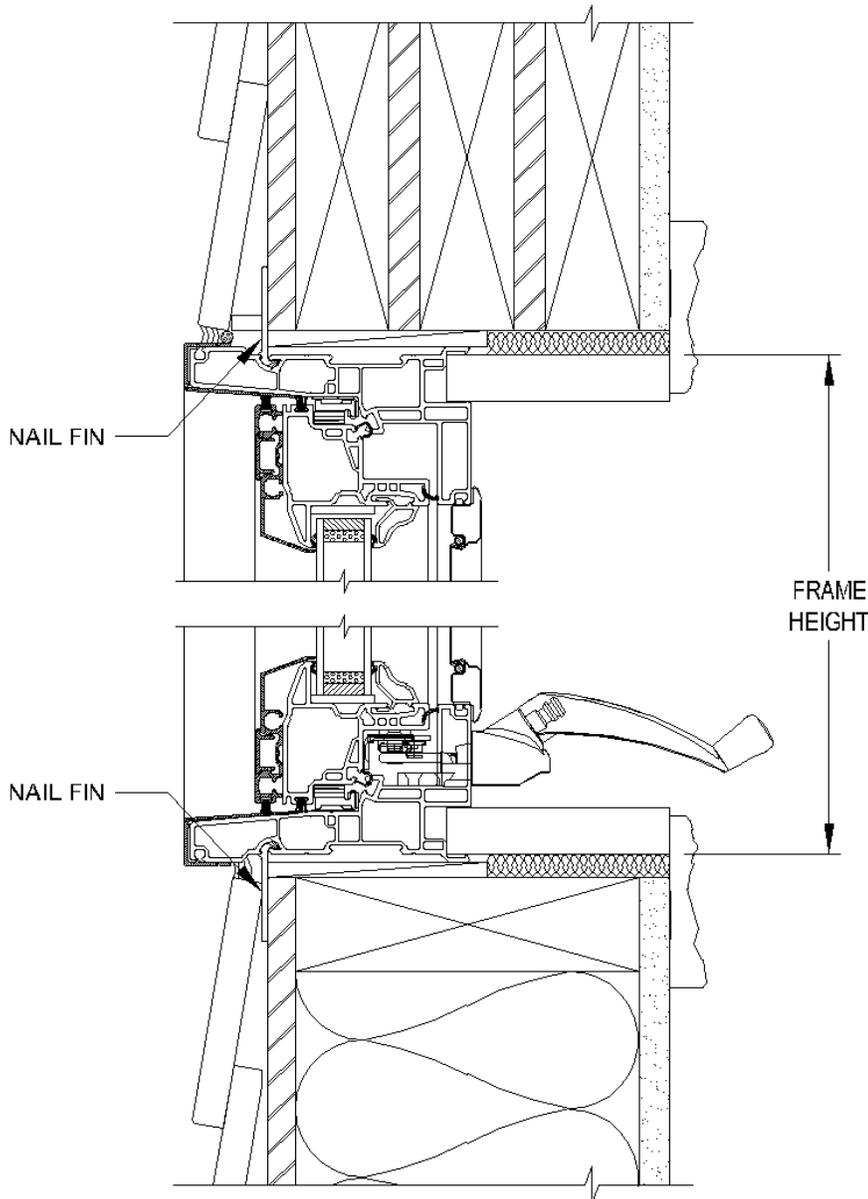
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4171 Hybrid Casement (With Nail Fin) In Wall (With Siding)



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

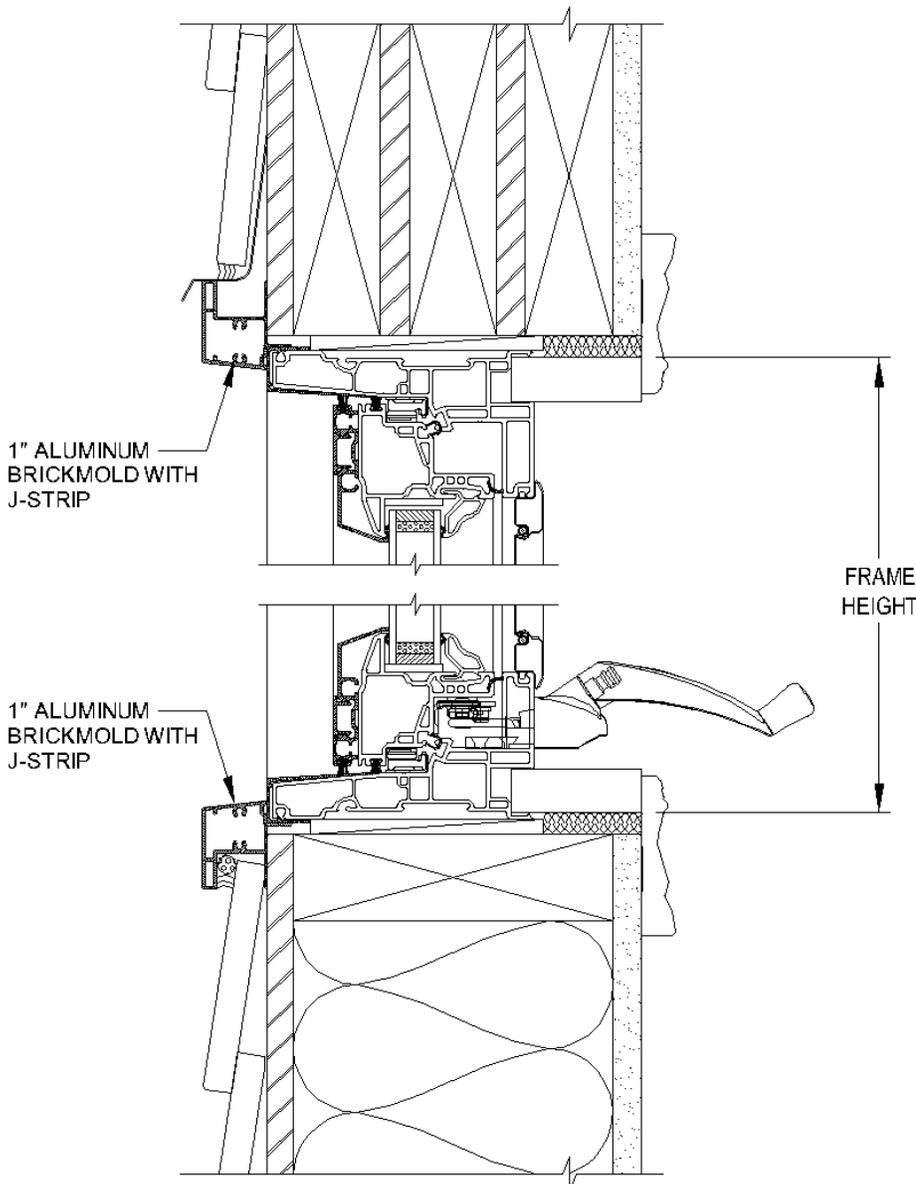
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4171 Hybrid Casement (With 1" Brickmold with J-Strip) In Wall (With Siding)



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

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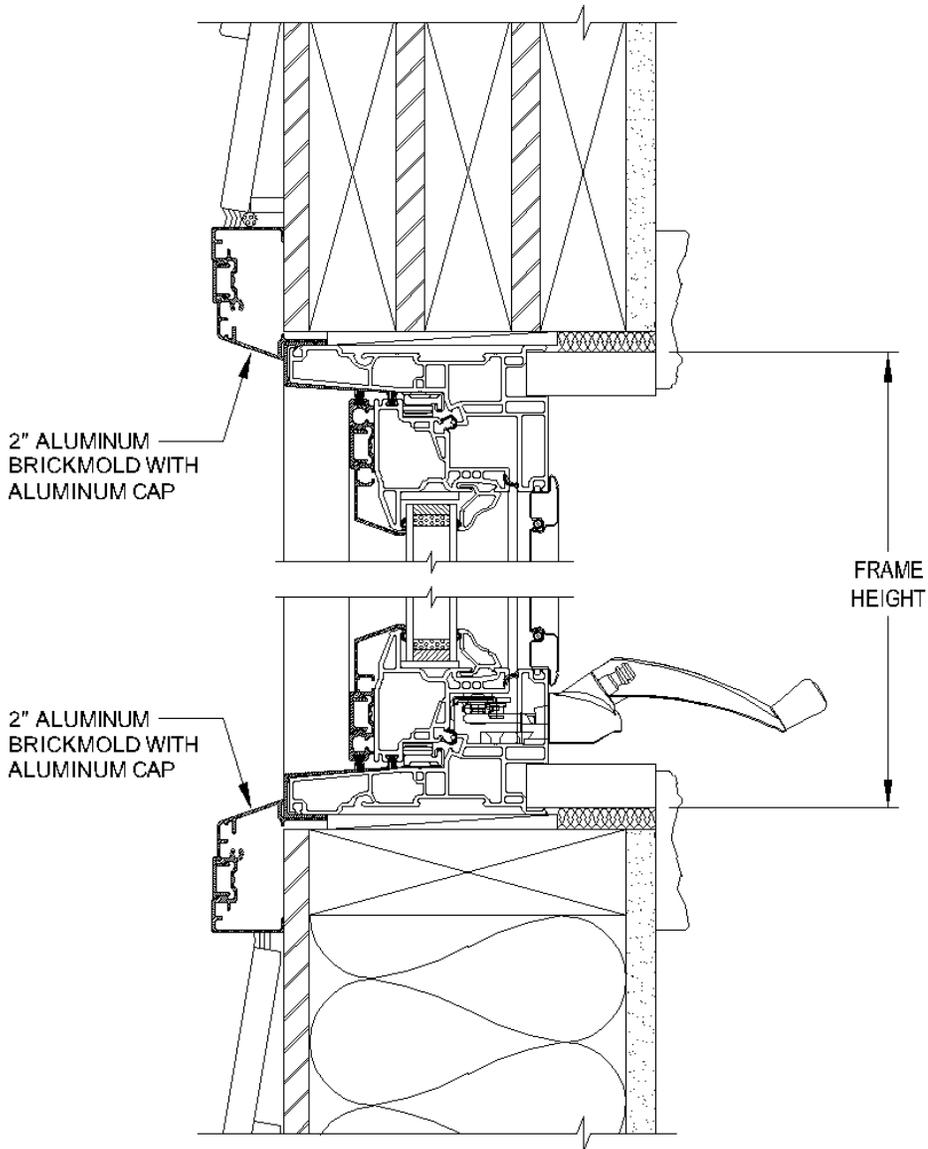
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4171 Hybrid Casement (With 2" Brickmold with Cap) In Wall (With Siding)



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

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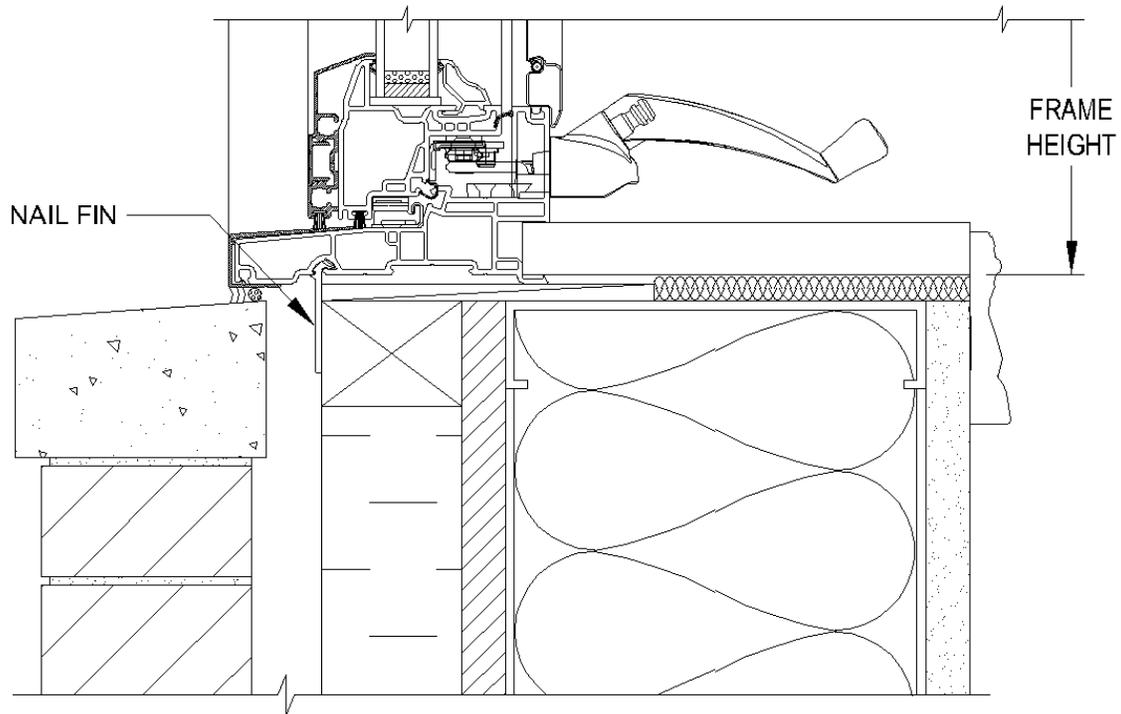
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4171 Hybrid Casement (With Nail Fin) In Stone Wall



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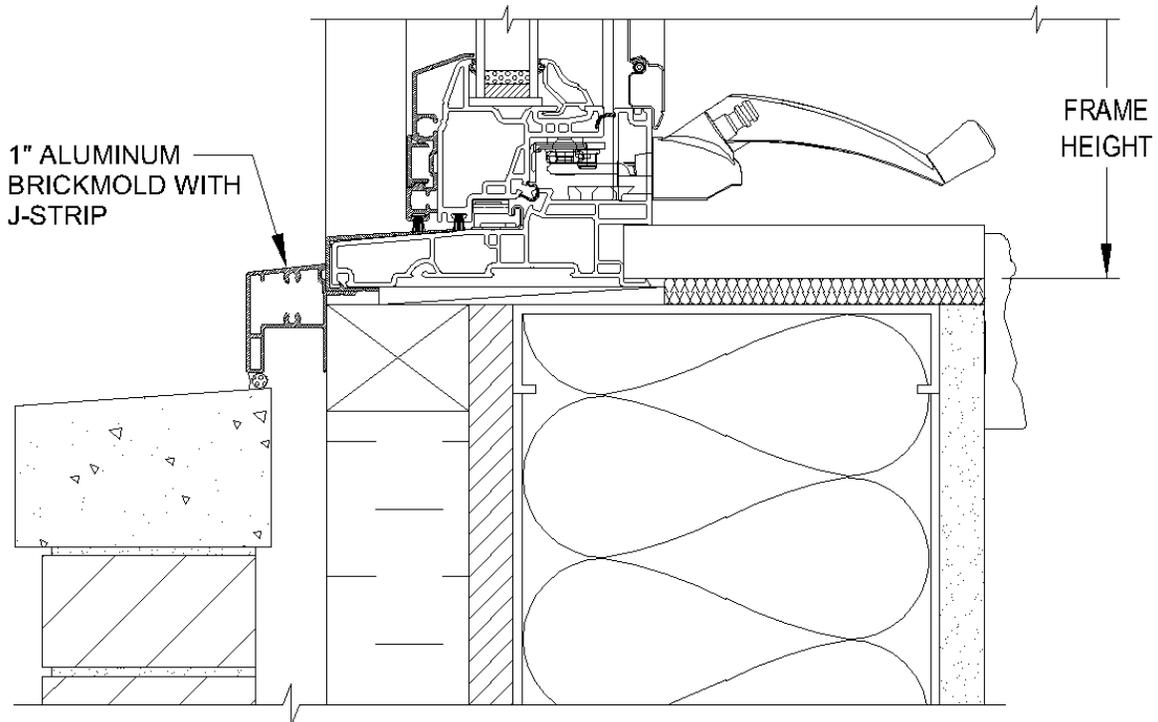
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4171 Hybrid Casement (With 1" Brickmold with J-Strip) In Stone Wall



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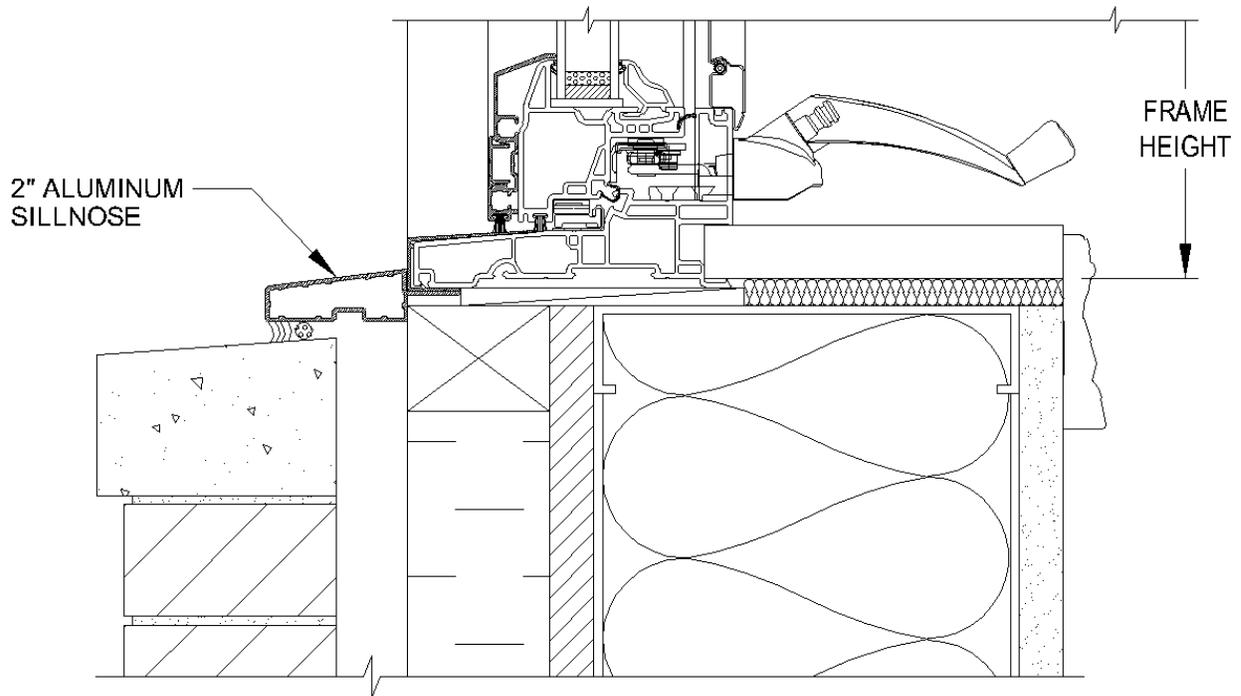
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4171 Hybrid Casement (With 2" Sillnose) In Stone Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

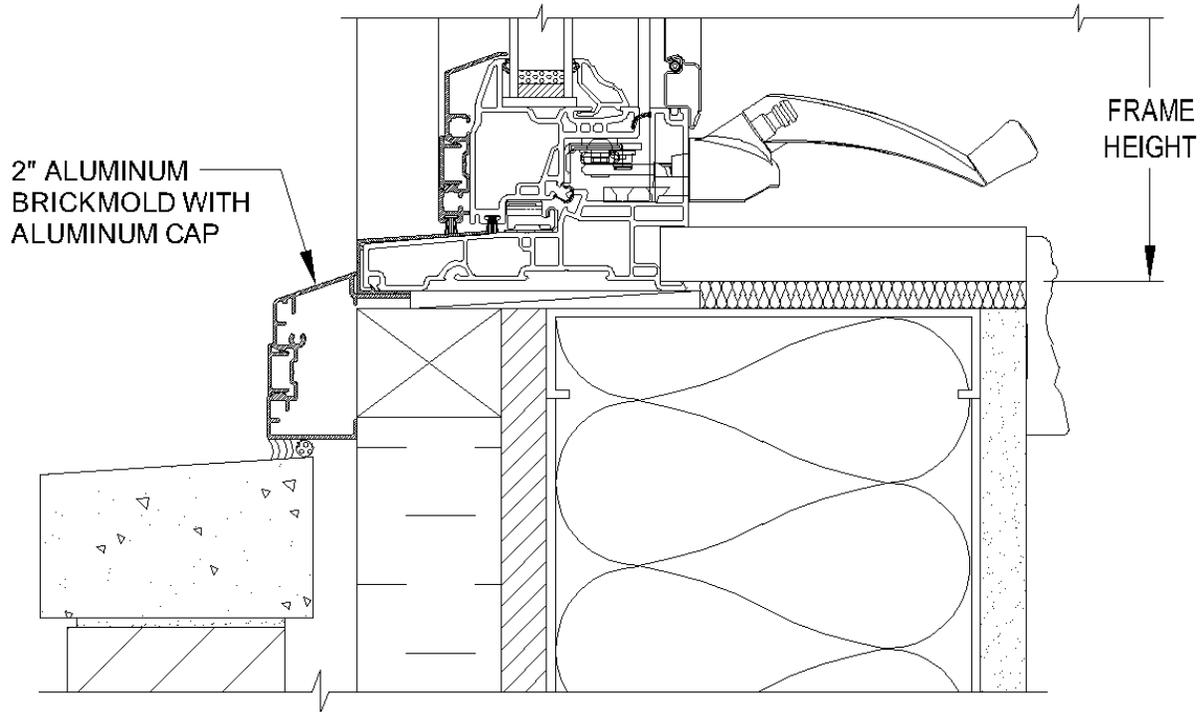
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4171 Hybrid Casement (With 2" Brickmold with Cap) In Stone Wall



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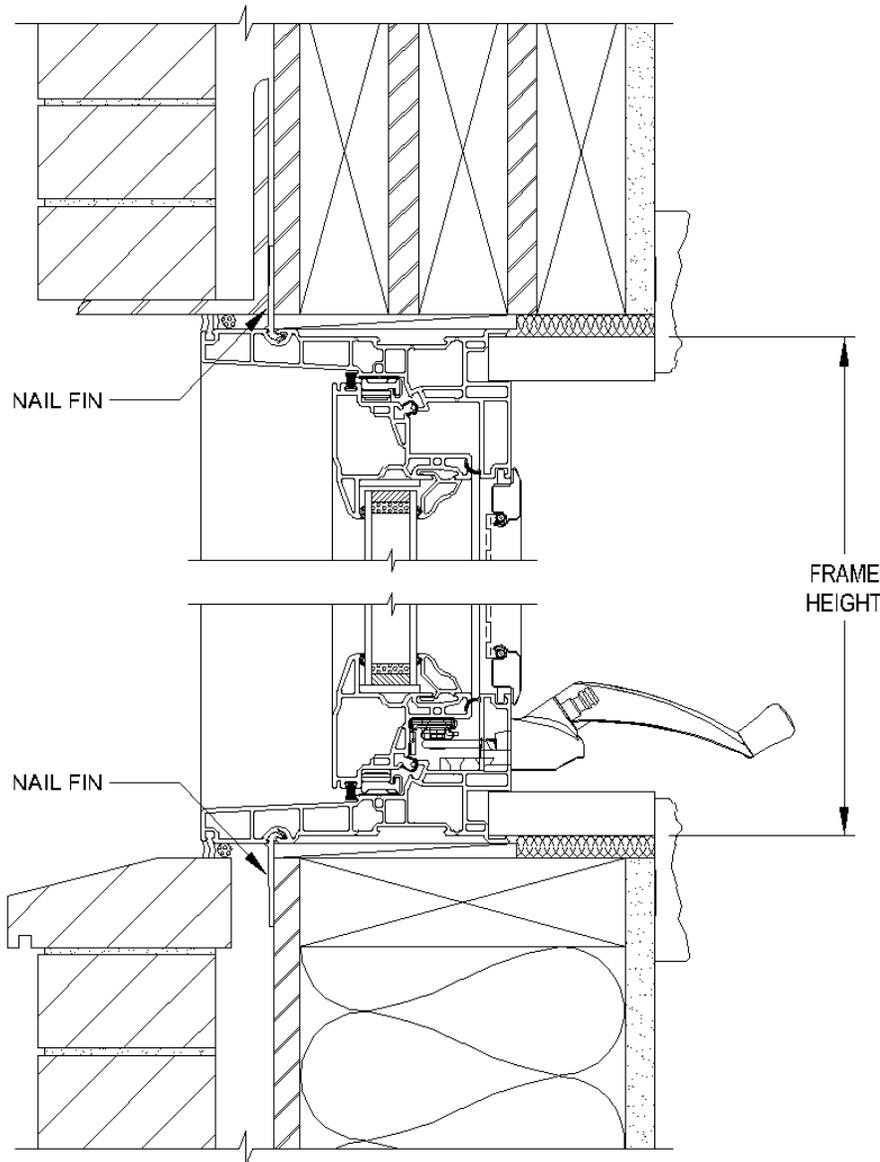
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5171 Casement (With Nail Fin) In Brick Wall



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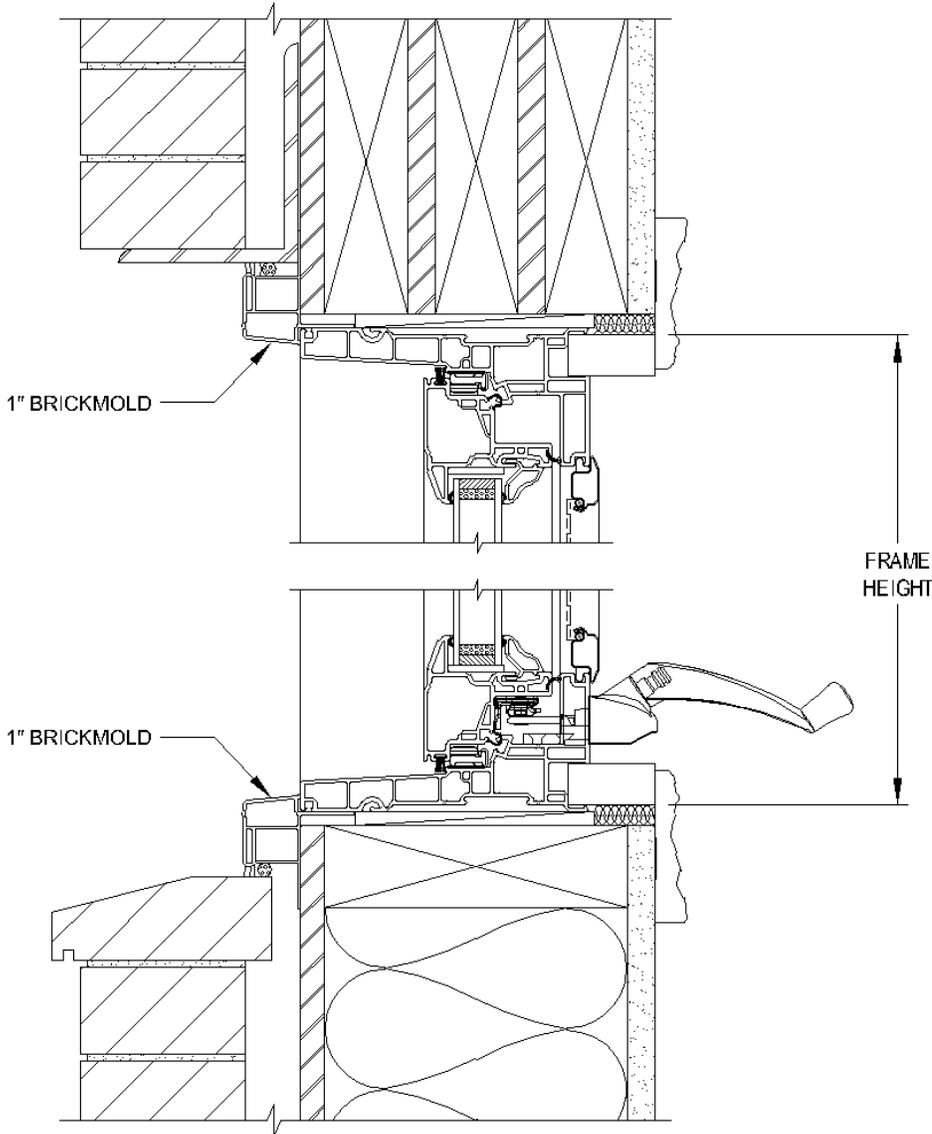
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5171 Casement (With 1" Brickmold) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

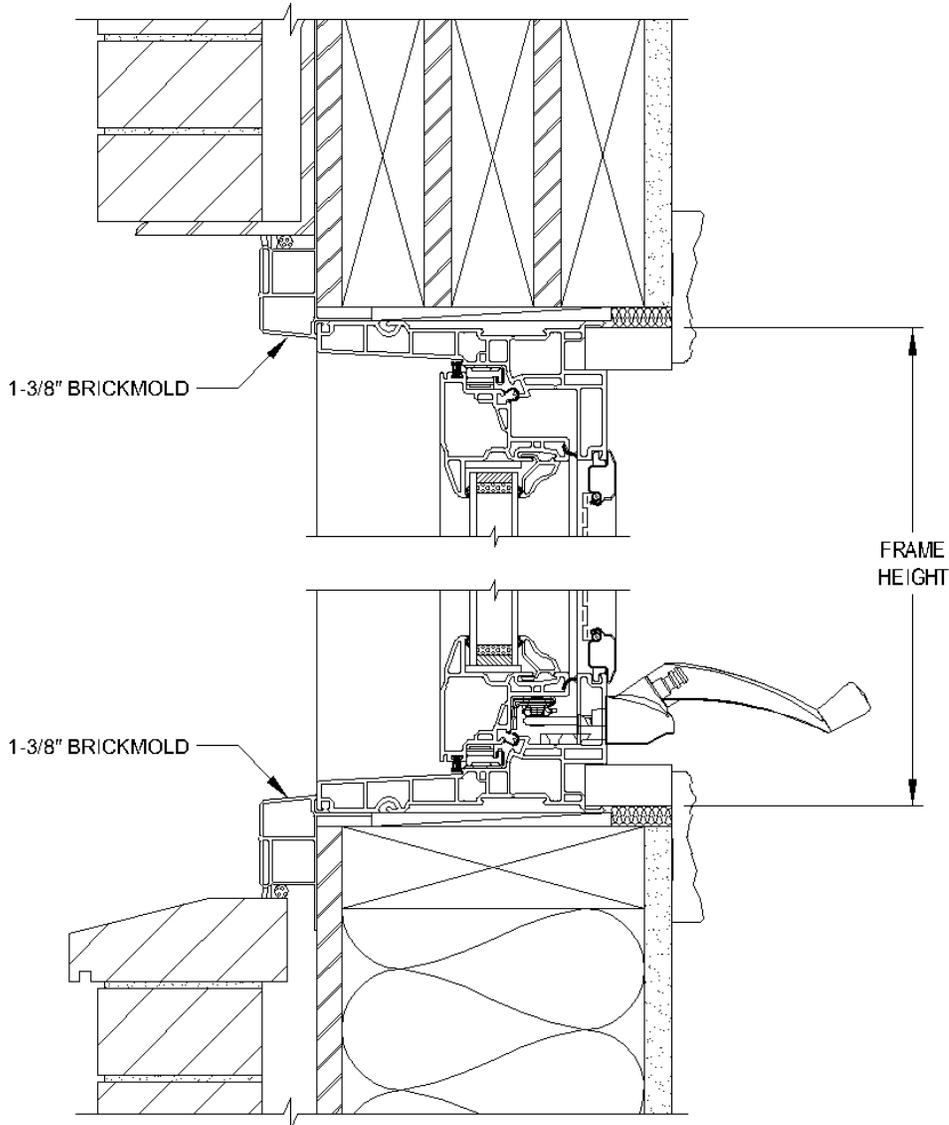
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5171 Casement (With 1-3/8" Brickmold) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

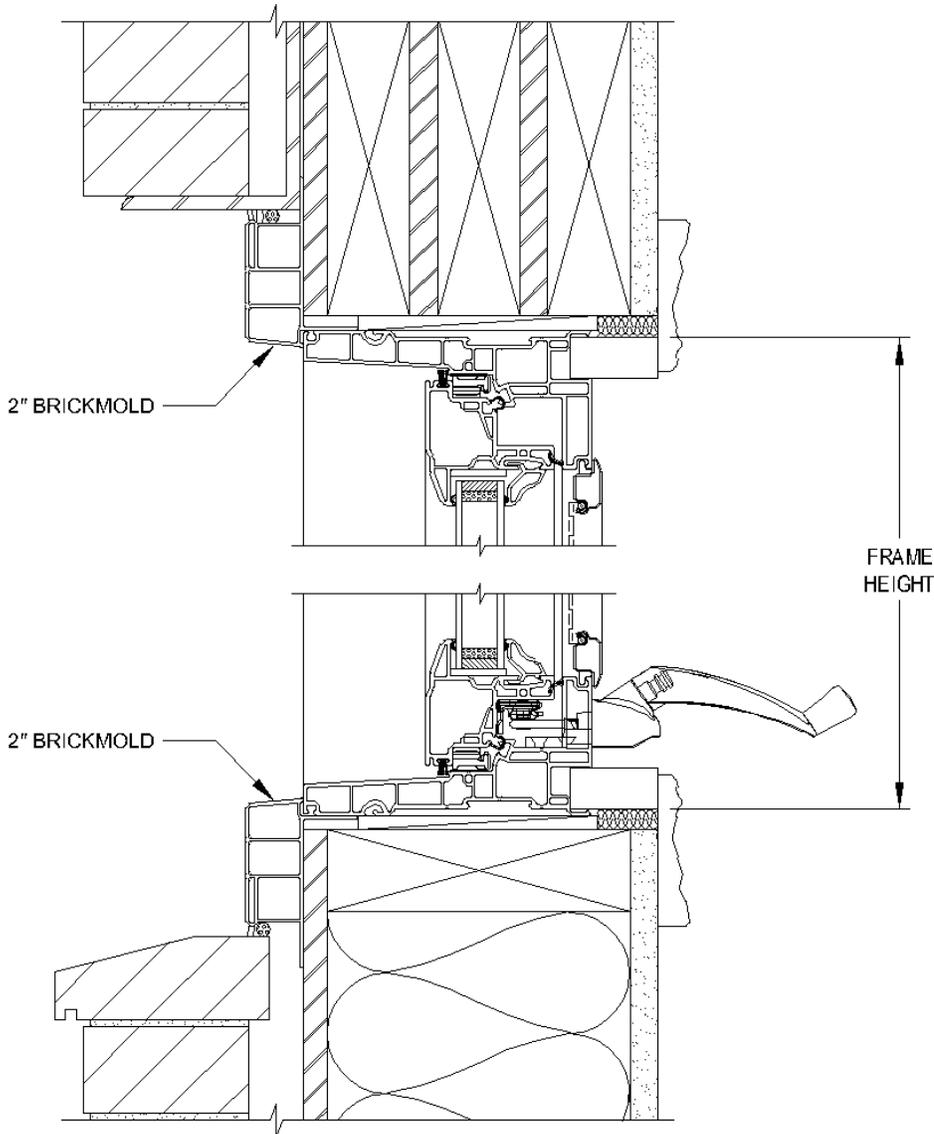
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5171 Casement (With 2" Brickmold) In Brick Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

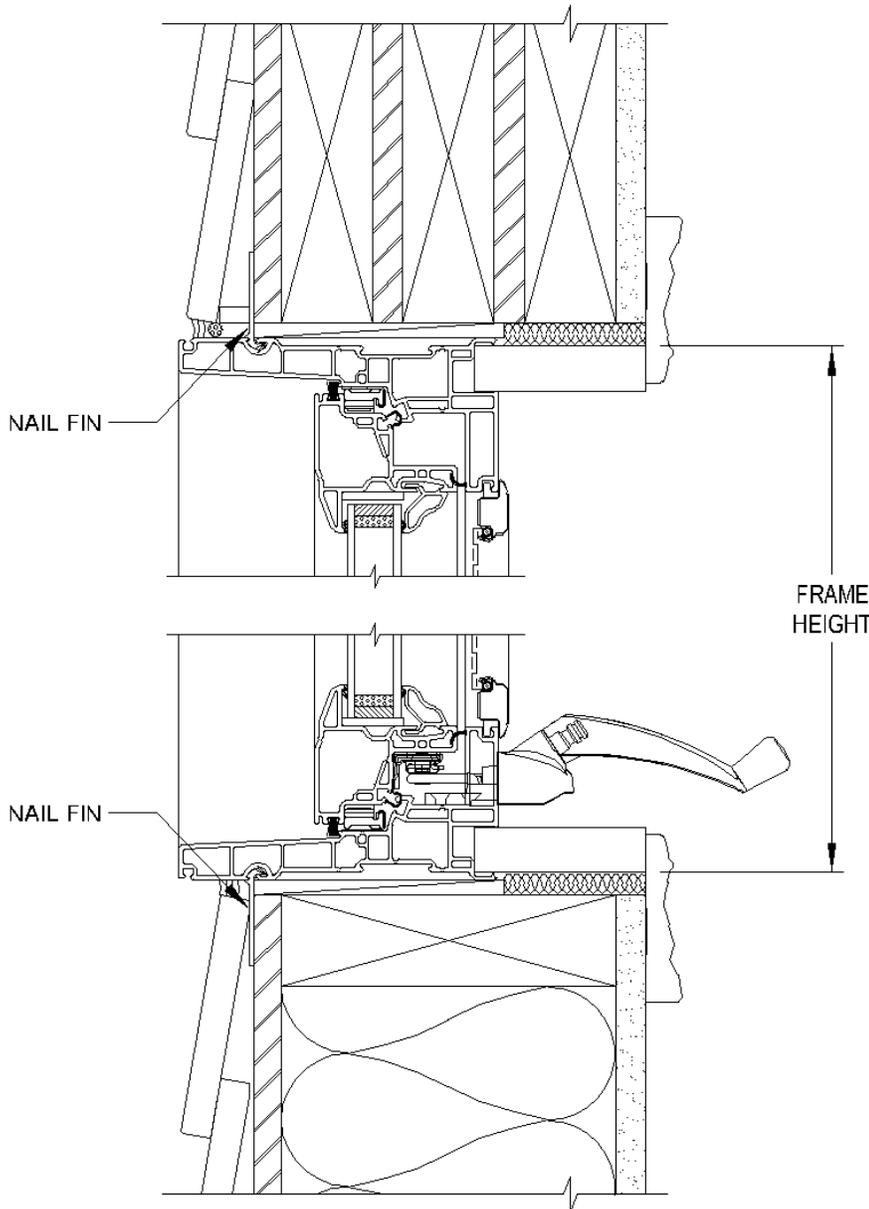
DRIP CAP RECOMMENDED, SEAL BEHIND AND UNDERNEATH

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

WHEN RIGID INSULATION OR OTHER COMPRESSIBLE SHEATHING MATERIAL IS USED, PROVIDE SOLID BLOCKING FOR FIN ATTACHMENT

DETAILS SHOWN ARE NOT INTENDED TO REFLECT COMPLETE INSTALLATION PROCEDURES, BUT DO REFLECT BASIC INSTALLATION CONCEPTS

5171 Casement (With Nail Fin) In Wall (With Siding)



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

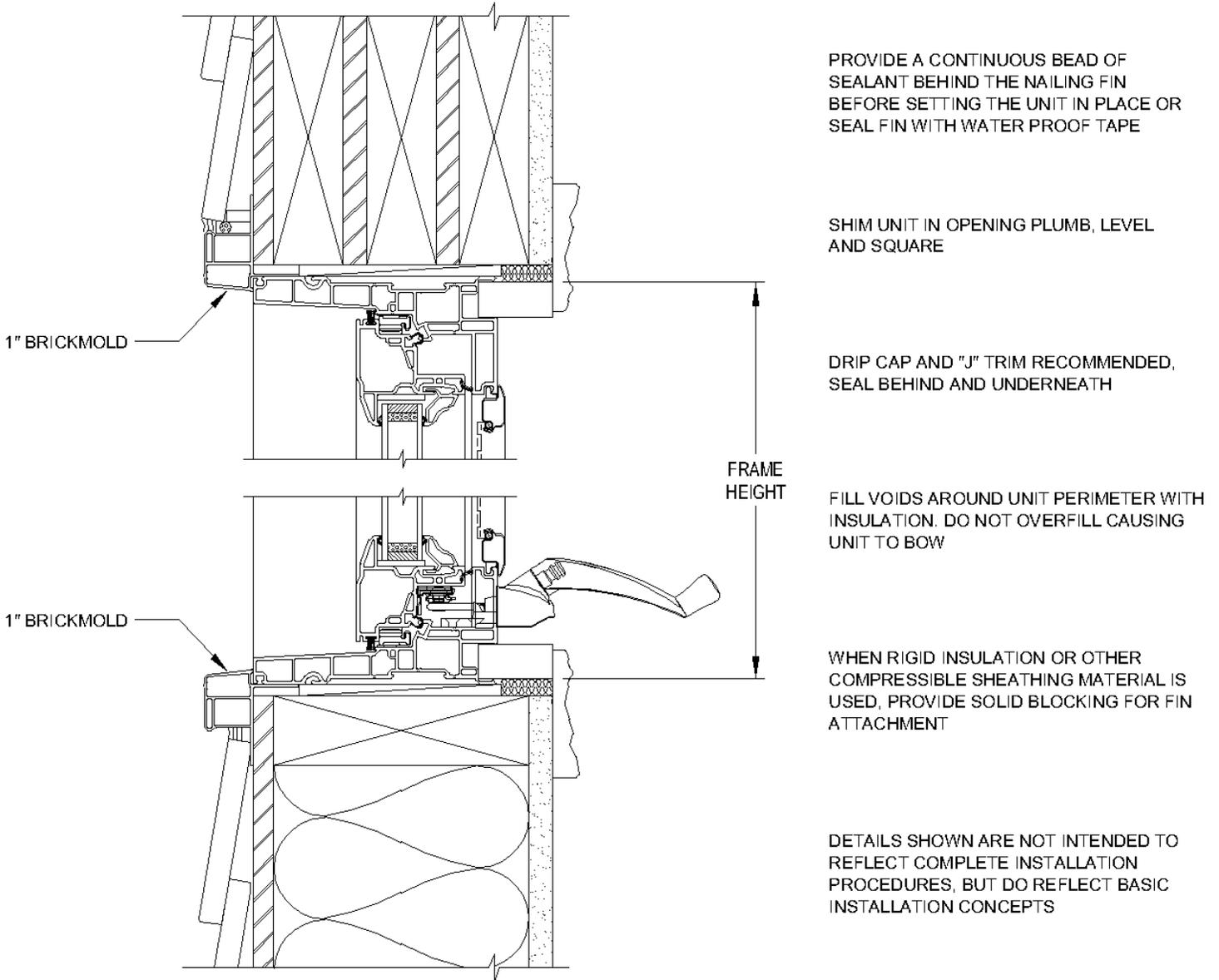
DRIP CAP AND "J" TRIM RECOMMENDED, SEAL BEHIND AND UNDERNEATH

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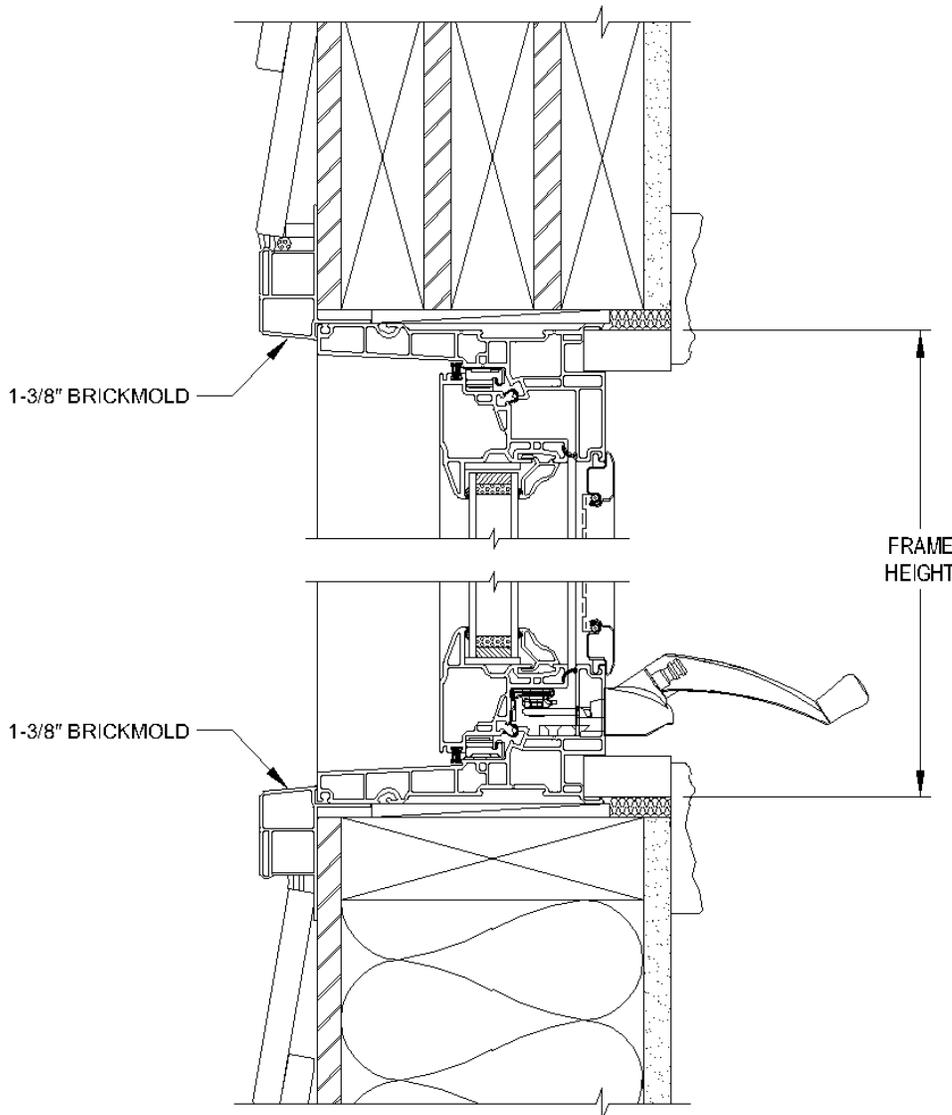
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5171 Casement (With 1" Brickmold) In Wall (With Siding)



5171 Casement (With 1-3/8" Brickmold) In Wall (With Siding)



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

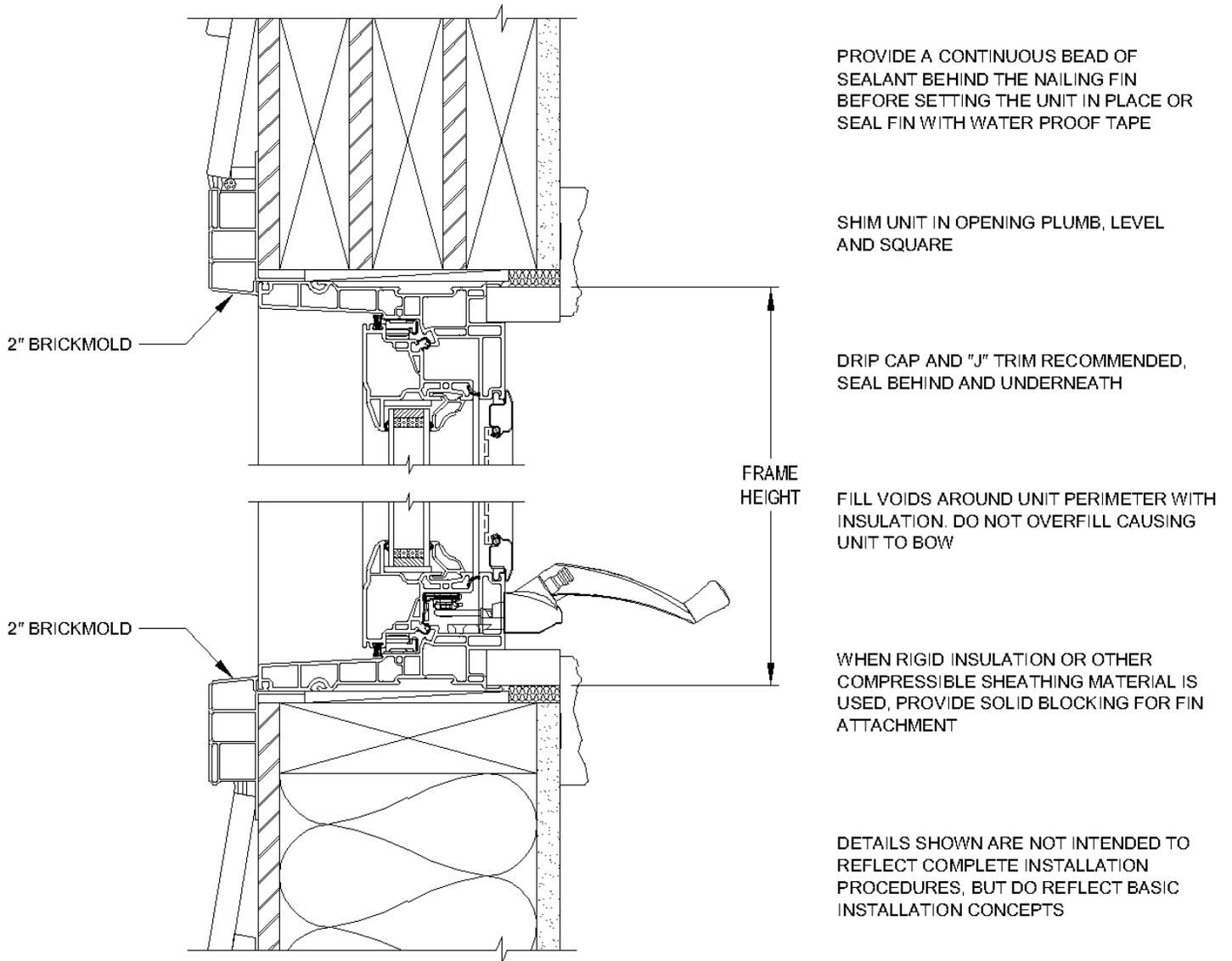
DRIP CAP AND "J" TRIM RECOMMENDED, SEAL BEHIND AND UNDERNEATH

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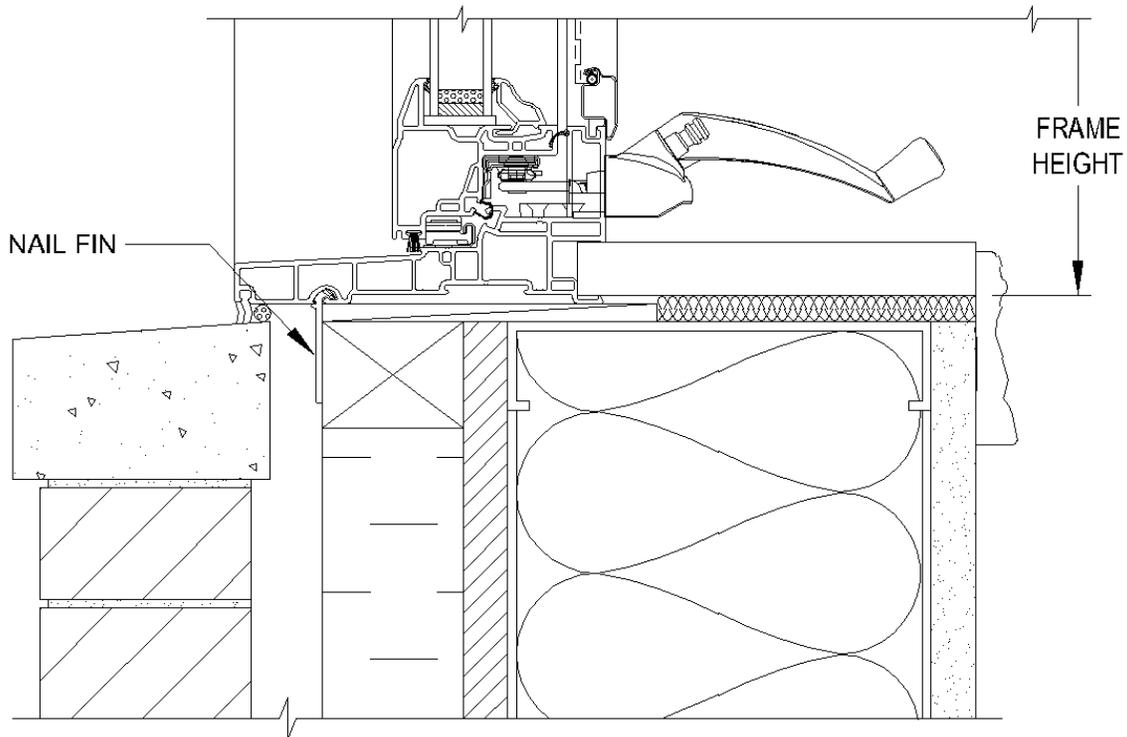
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5171 Casement (With 2" Brickmold) In Wall (With Siding)



5171 Casement (With Nail Fin) In Stone Wall



PROVIDE A CONTINUOUS BEAD OF SEALANT BEHIND THE NAILING FIN BEFORE SETTING THE UNIT IN PLACE OR SEAL FIN WITH WATER PROOF TAPE

FILL VOIDS AROUND UNIT PERIMETER WITH INSULATION. DO NOT OVERFILL CAUSING UNIT TO BOW

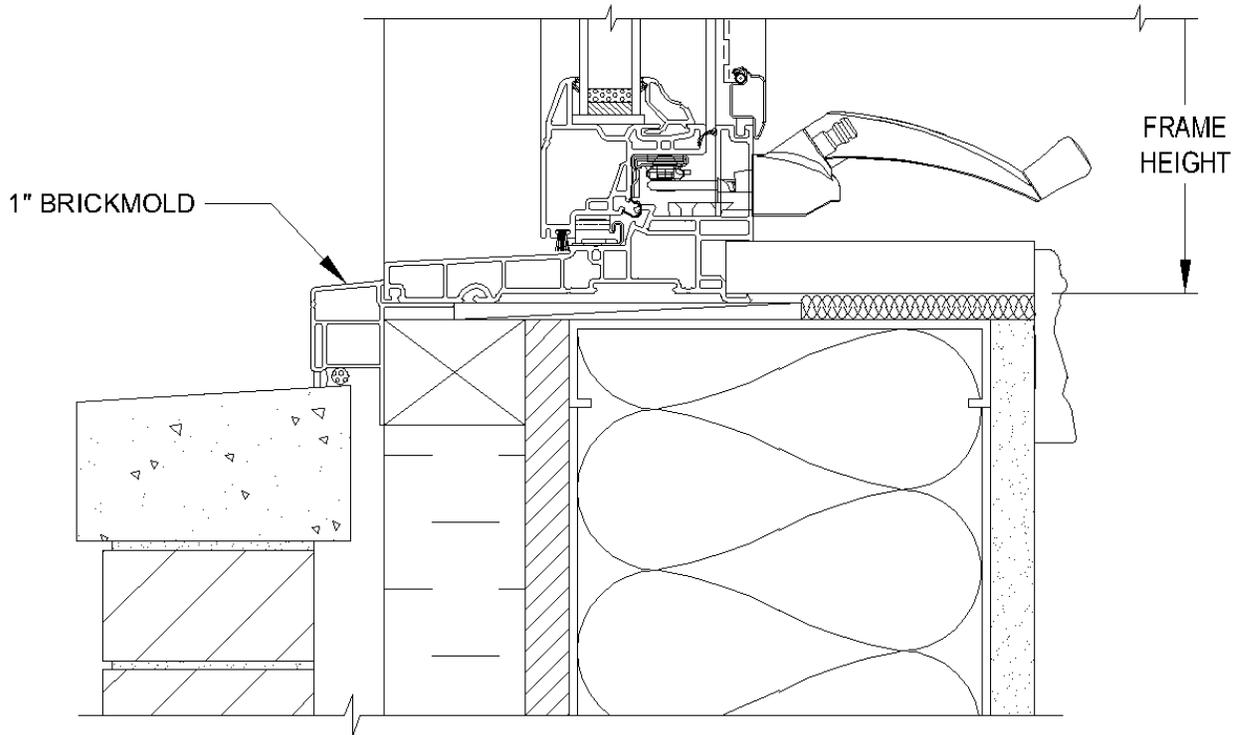
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5171 Casement (With 1" Brickmold) In Stone Wall



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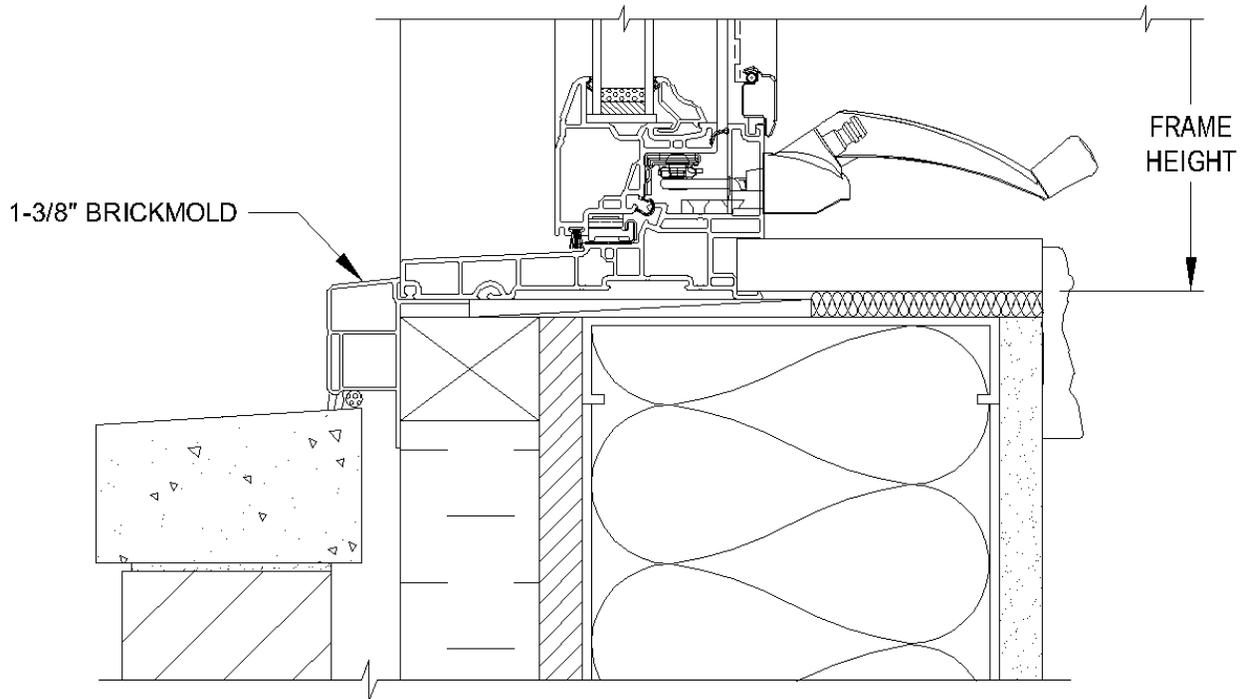
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5171 Casement (With 1-3/8" Brickmold) In Stone Wall



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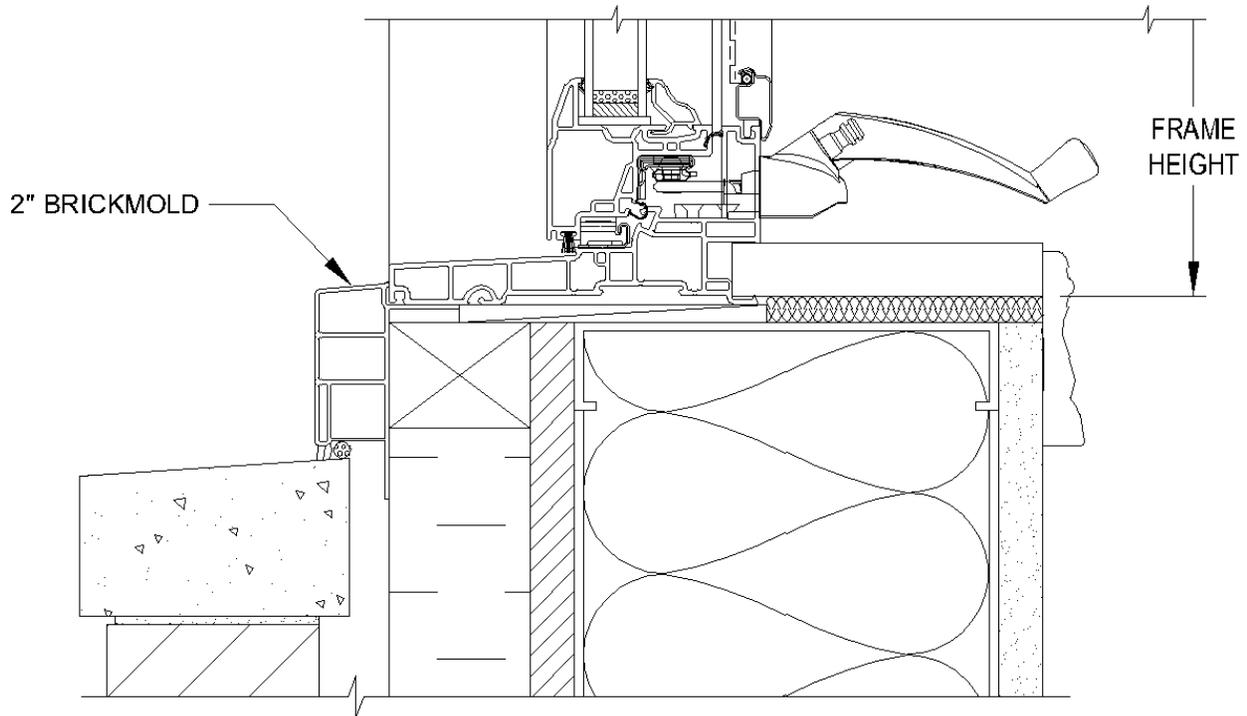
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5171 Casement (With 2" Brickmold) In Stone Wall



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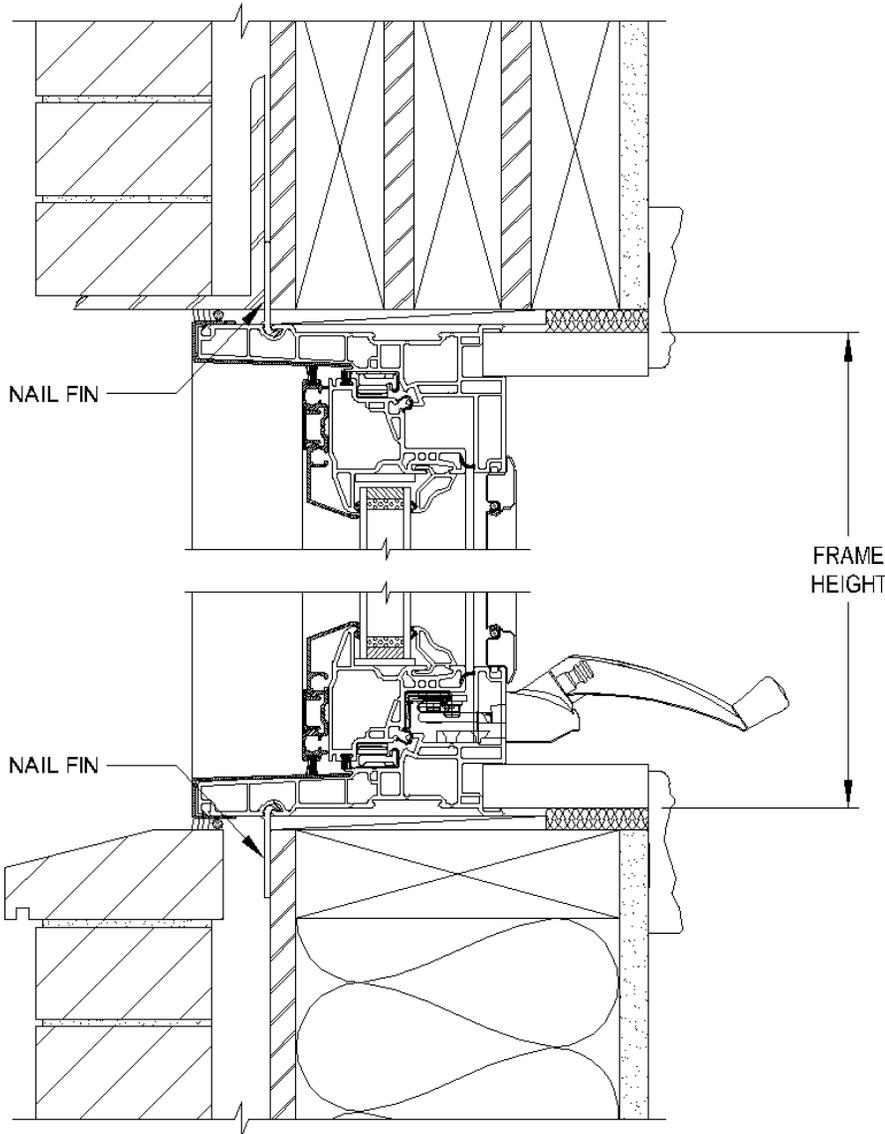
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5171 Hybrid Casement (With Nail Fin) In Brick Wall



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SHIM UNIT IN OPENING PLUMB, LEVEL AND SQUARE

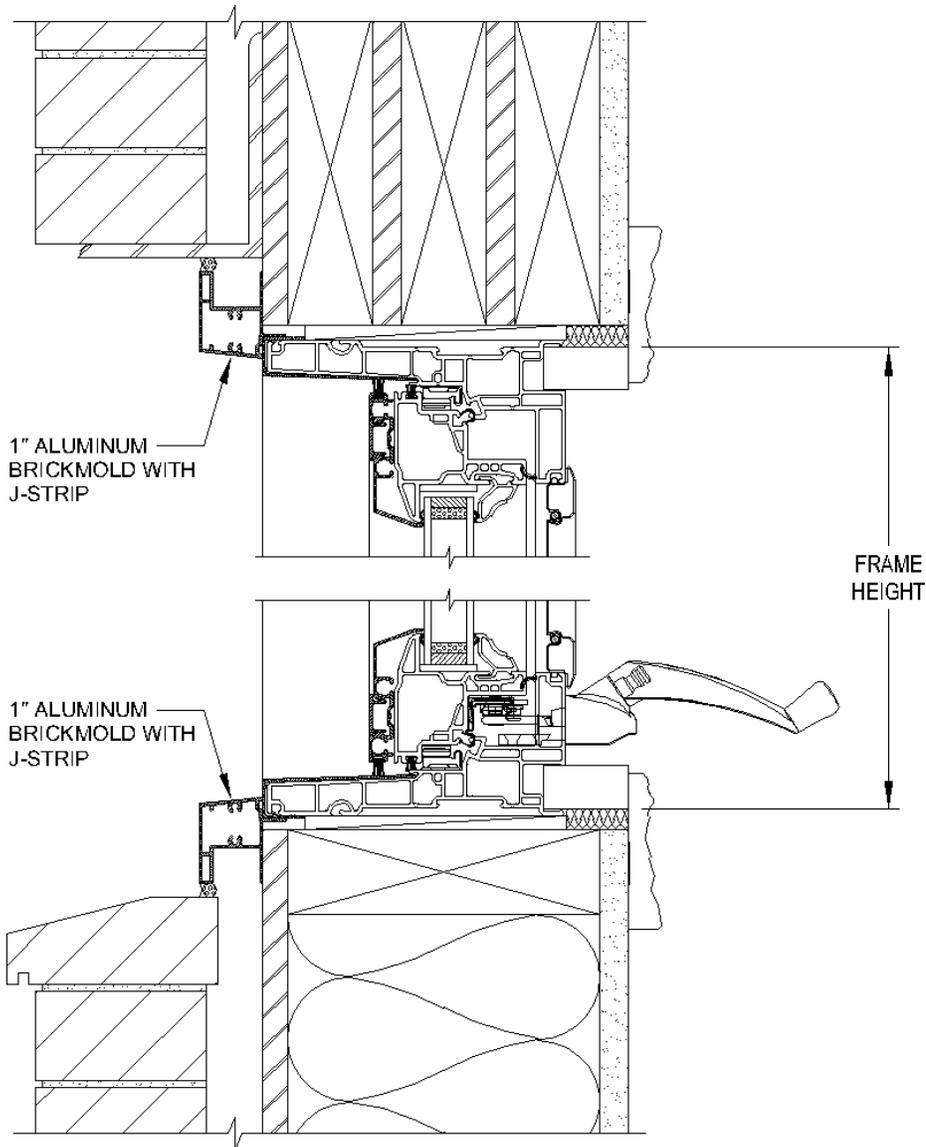
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5171 Hybrid Casement (With 1" Brickmold with J-Strip) In Brick Wall



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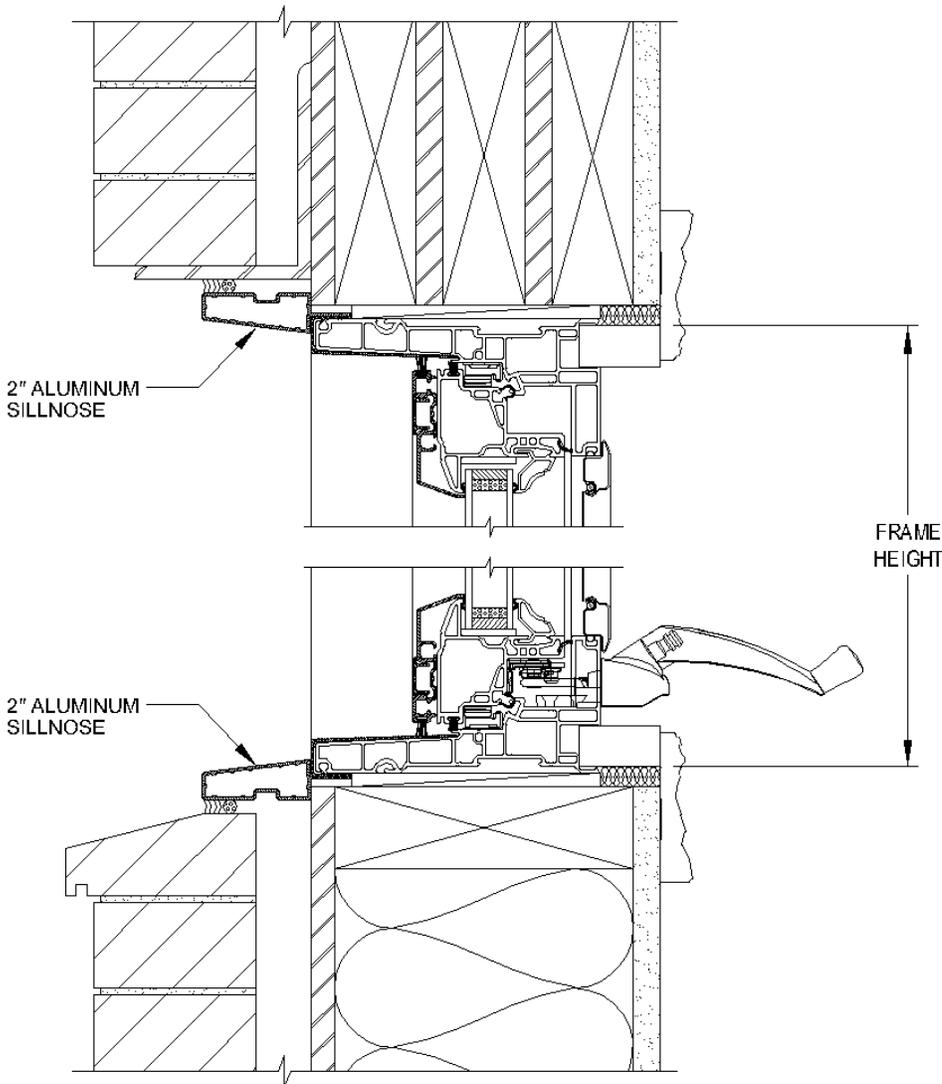
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5171 Hybrid Casement (With 2" Sillnose) In Brick Wall



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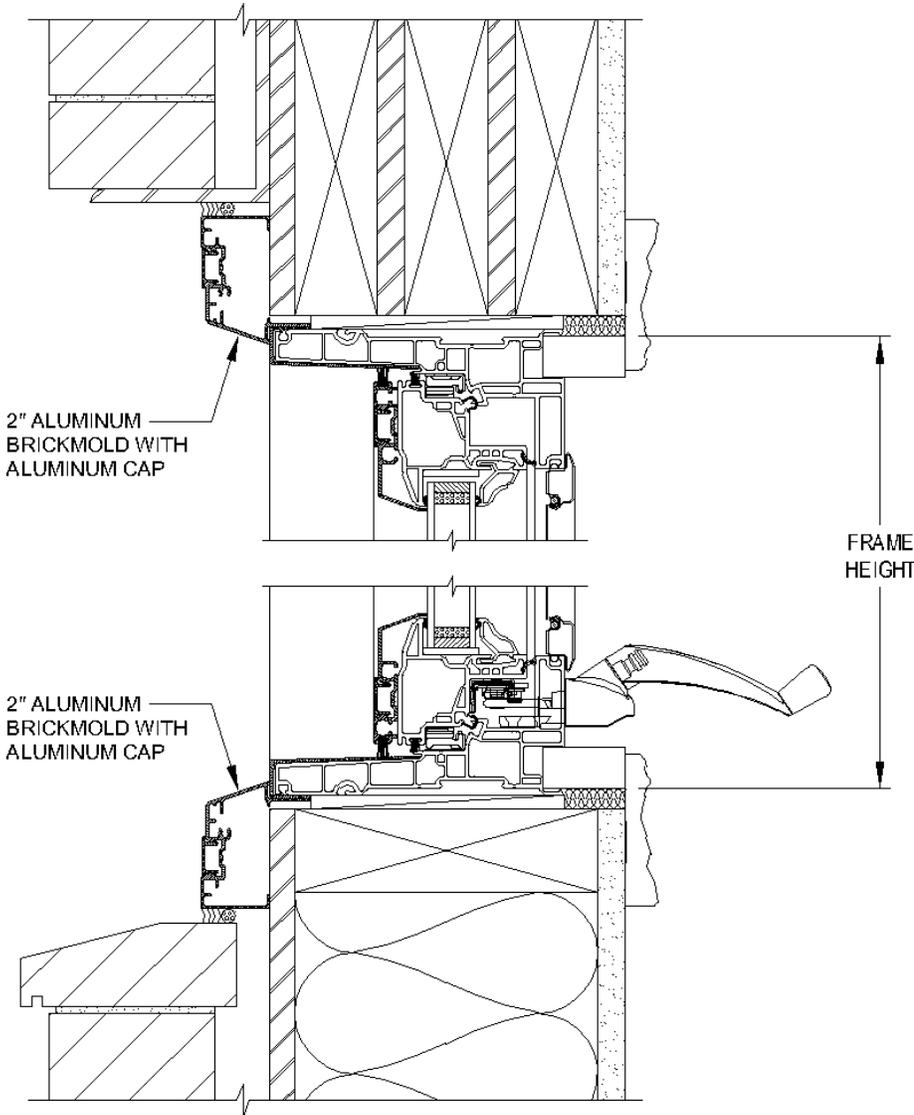
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5171 Hybrid Casement (With 2" Brickmold with Cap) In Brick Wall



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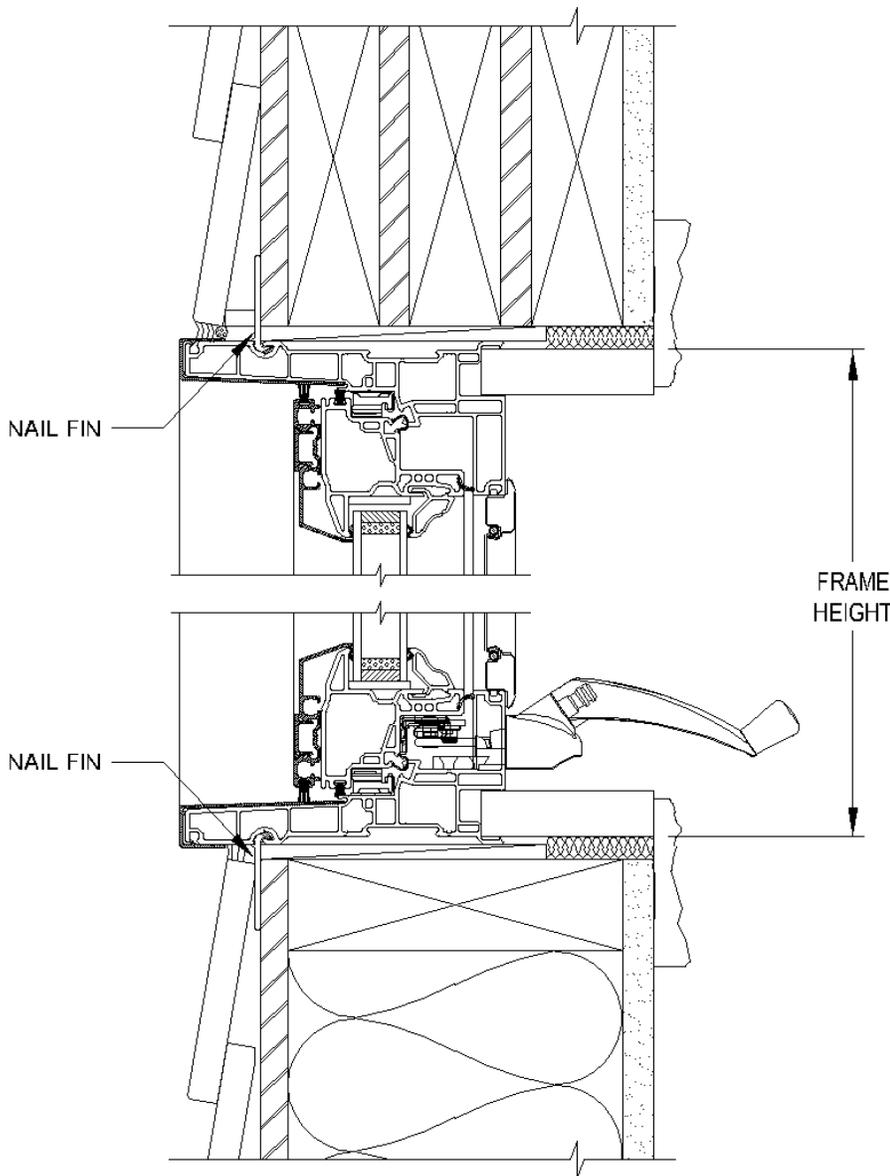
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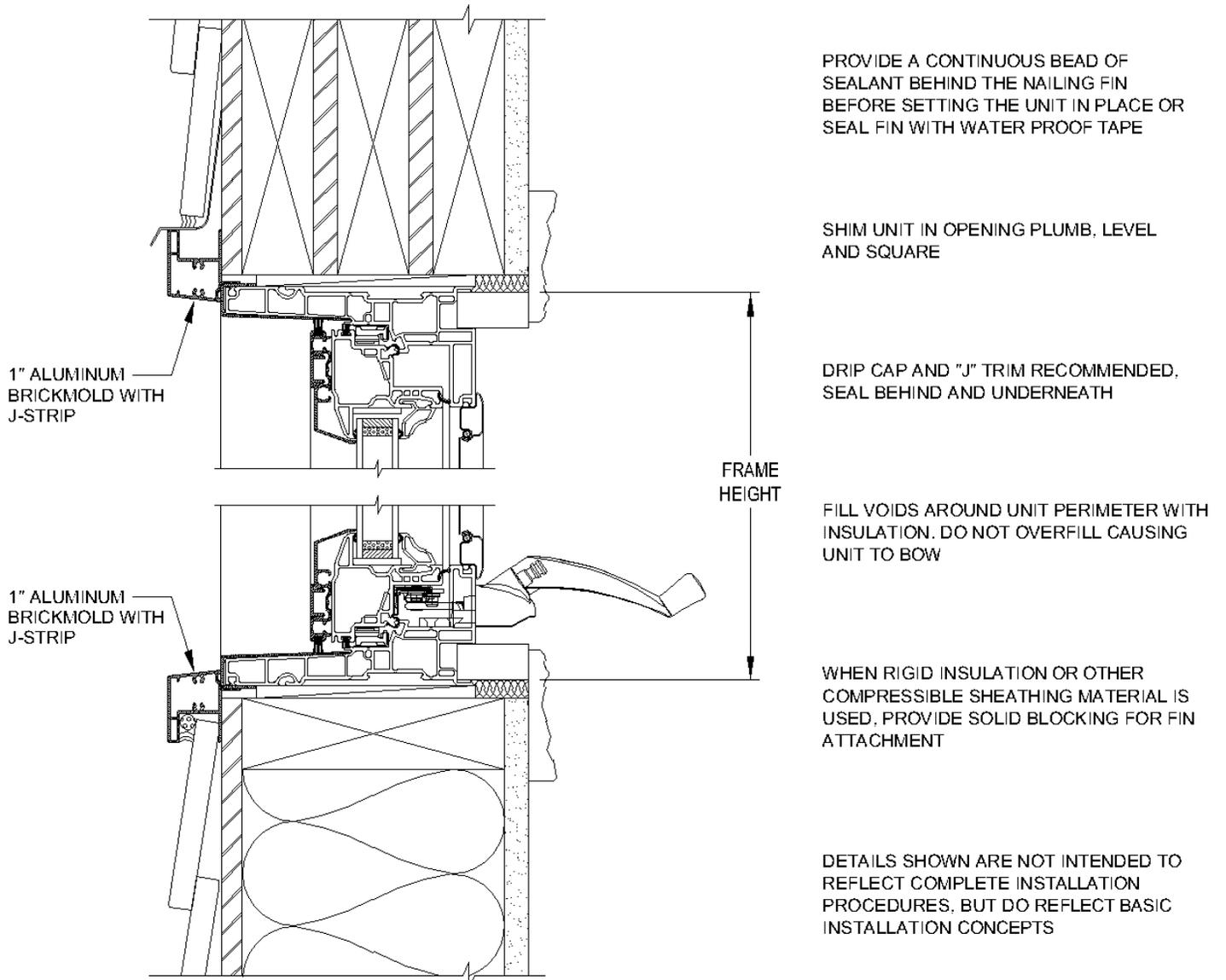
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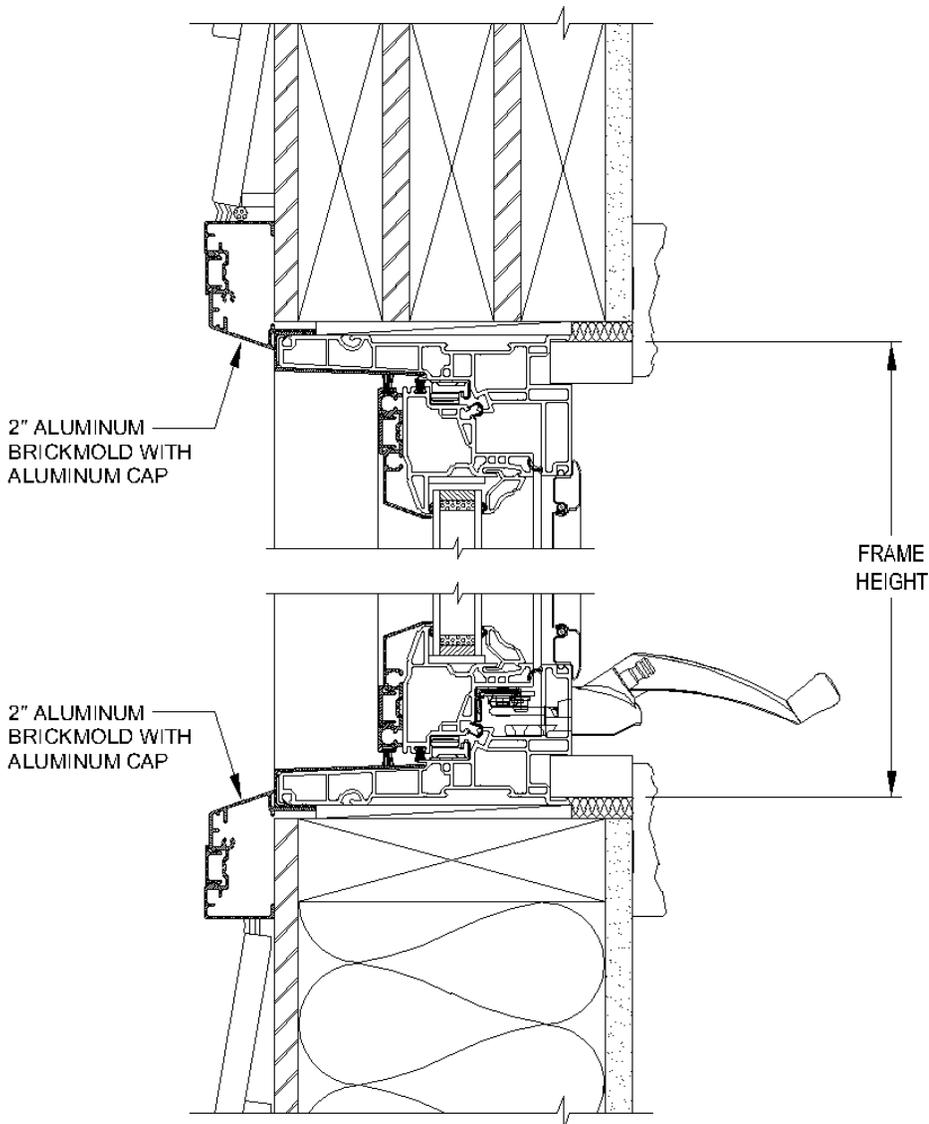
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5171 Hybrid Casement (With 2" Brickmold with Cap) In Wall (With Siding)



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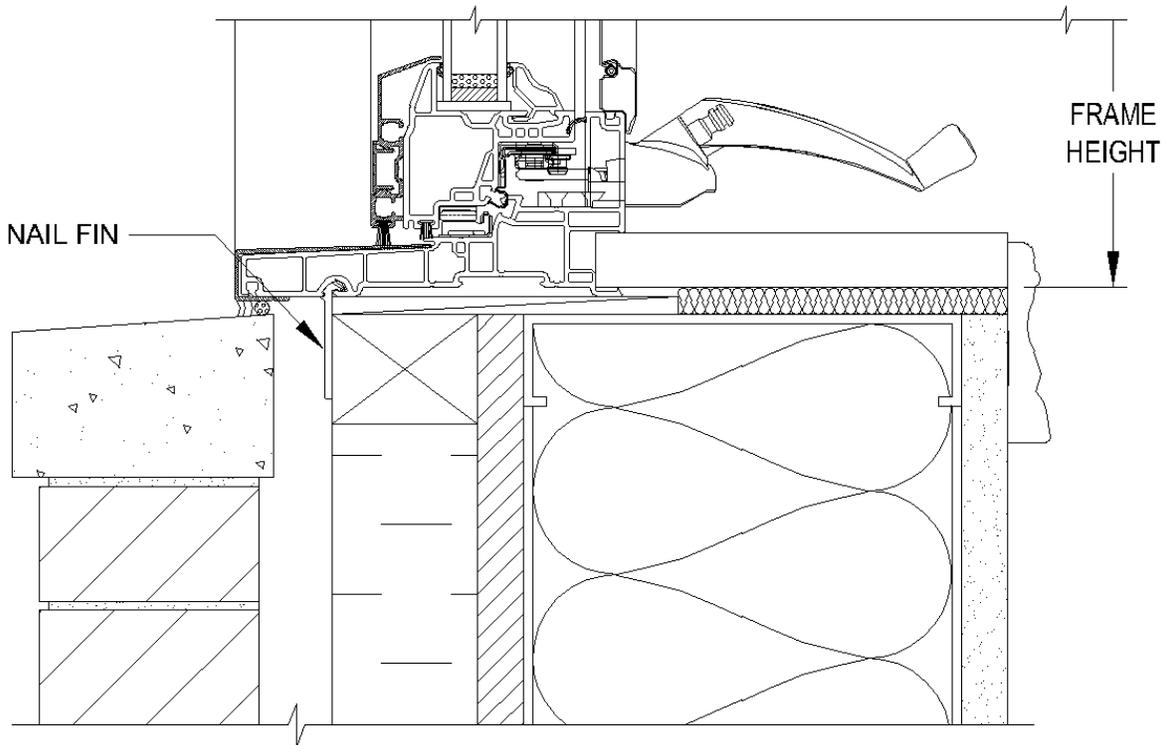
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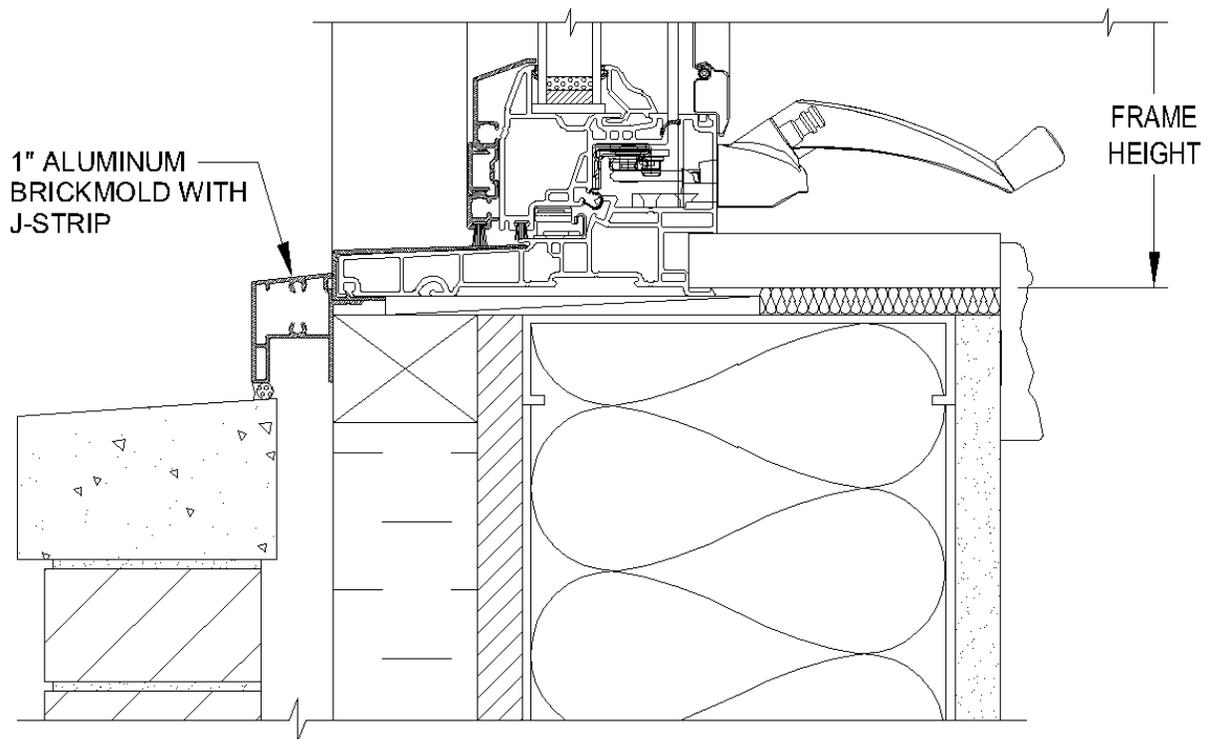
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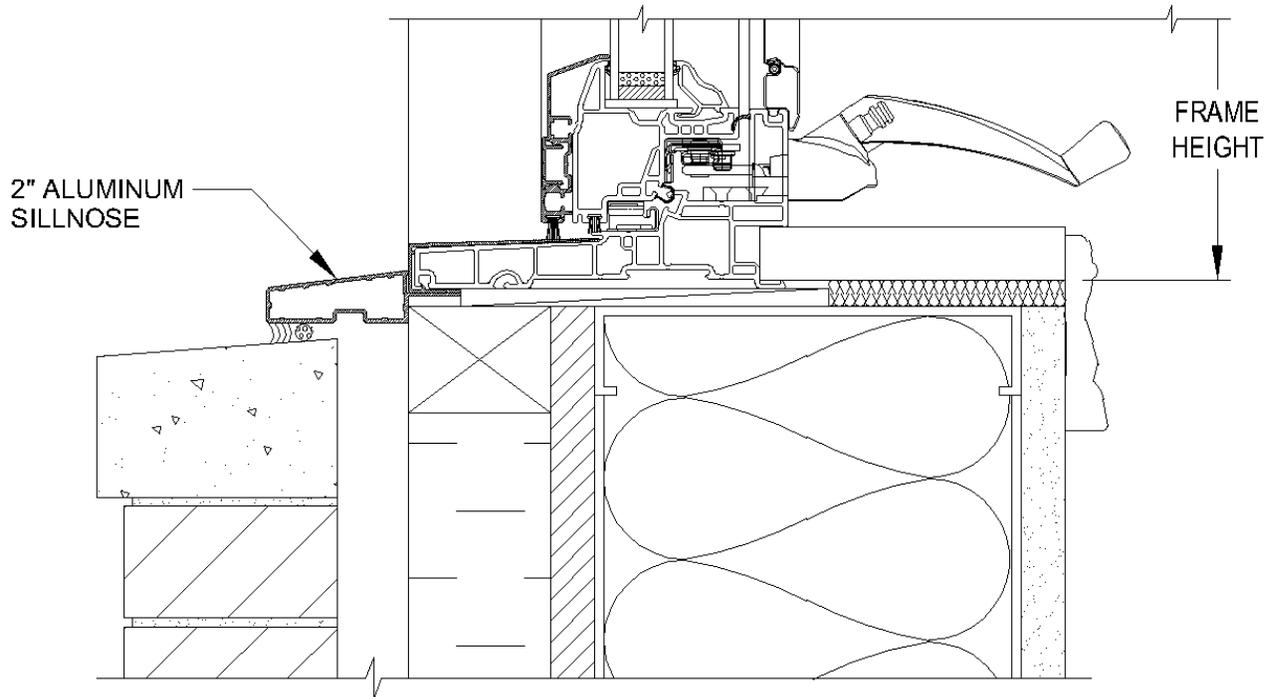
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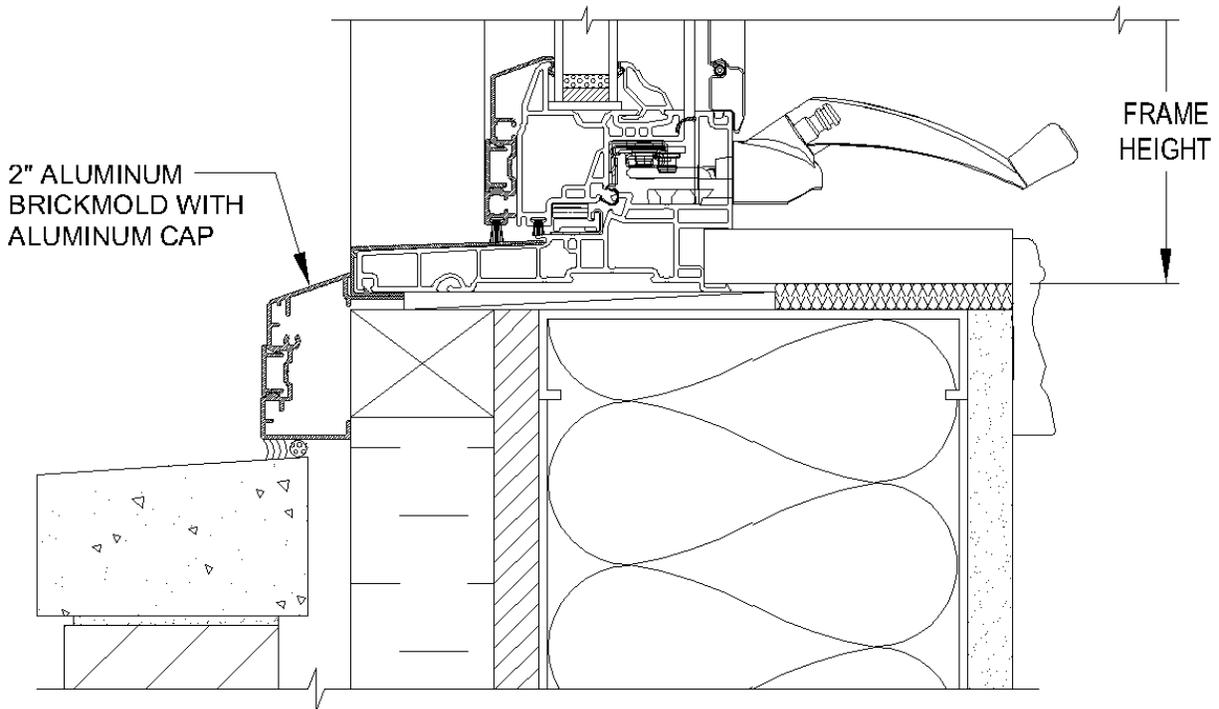
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Energy Star® - CANADA

Products may comply for Canada’s Energy Star® program based on two compliance paths; either the product U-factor total or product Energy Rating (ER). The ER is based on a product’s overall performance based on the following three criteria:

- 1) Solar heat gain
- 2) Heat loss through the frame, spacer and glass
- 3) Air leakage loss

The higher the ER number, the better the product’s thermal performance

The U-factor and ER criteria for Canada’s three climate zones are shown in the charts provided. For more detailed information about the ER system and North Star products that qualify for Canada’s Energy Star® program, visit the Energy star® website.



January 1, 2016 Energy Star® Qualification Criteria for Windows & Sliding Doors in Canada*

Zone	COMPLIANCE PATHS		
	Minimum Energy Rating (ER)	or	Maximum U-Factor / Minimum ER
1	25	or	≤ 0.28 / 16
2	29	or	≤ 0.25 / 20
3	34	or	≤ 0.21 / 24

January 1, 2016 Energy Star® Qualification Criteria for Swinging Doors in Canada

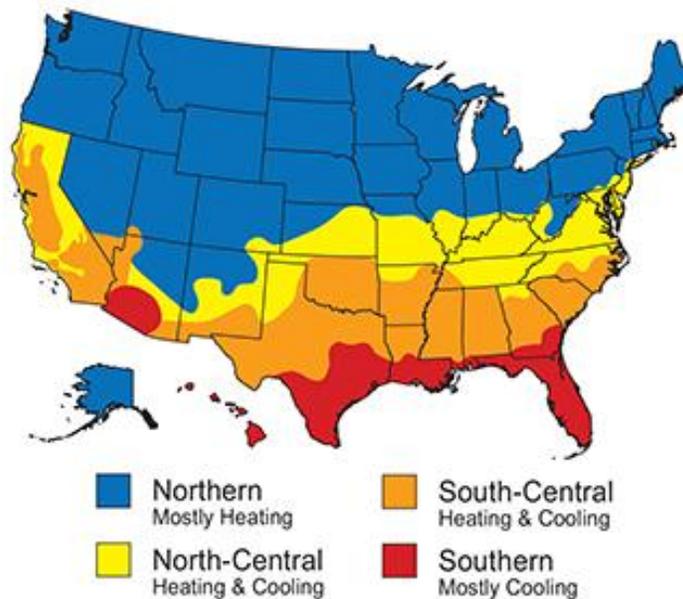
Zone	COMPLIANCE PATHS		
	Minimum Energy Rating (ER)	or	Maximum U-Factor
1	25	or	≤ 0.28
2	29	or	≤ 0.25
3	34	or	≤ 0.21

*Windows and sliding doors can qualify based on either a combination of the U-factor and a minimum Energy Rating, or just the Energy Rating

Energy Star® - USA

Energy Star® is a government-regulated program that was created by the Environmental Protection Agency (EPA), and the U.S. Department of Energy (DOE), to help consumers quickly and easily identify energy saving products. The Energy Star® program uses energy values obtained by window and door manufacturers through the National Fenestration Rating Council (NFRC) program. NFRC ratings are based on the energy performance of the total window or door – both glass and frame.

The Energy Star® program for the United States divides the nation into four separate climate zones – Northern, North-Central, South-Central, and Southern.



January 1, 2016 Energy Star® Qualification Criteria for Windows in the USA

Climate Zones - U.S.	U-Factor	SHGC
■ Northern**	≤ 0.30	Any
■ Northern**	= 0.31	≥ 0.35
■ Northern**	= 0.32	≥ 0.40
■ North-Central	≤ 0.30	≤ 0.40
■ South-Central	≤ 0.30	≤ 0.25
■ Southern	≤ 0.40	≤ 0.25

January 1, 2016 Energy Star® Qualification Criteria for Doors in the USA

Glazing	U-Factor	SHGC	
Opaque	≤ 0.17	No rating	
≤ 1/2-Lite	≤ 0.25	≤ 0.25	
> 1/2-Lite	≤ 0.30	Northern North-Central	≤ 0.40
		Southern South-Central	≤ 0.25

**Northern zone windows can meet prescriptive (1st row) or alternative energy performance (2nd & 3rd row) criteria to qualify for Energy Star®

1071 – Picture Window (No Sash) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	N,NC,SC,S	17	0.25	0.58	59	1.71	0.30	3.33
366 (2)	Double		Y	None	N,NC,SC,S	15	0.22	0.52	59	1.71	0.30	3.33
366 (2)	Double	Arg/Kry		1 2	N,NC,SC,S	23	0.24	0.58	63	1.42	0.25	4.00
366 (2)	Double	Arg/Kry	Y	1 2	N,NC,SC,S	22	0.22	0.52	63	1.42	0.25	4.00
366 (2)	Double	Argon		1 2	N,NC,SC,S	23	0.24	0.58	63	1.42	0.25	4.00
366 (2)	Double	Argon	Y	1 2	N,NC,SC,S	22	0.22	0.52	63	1.42	0.25	4.00
Bronze/LOF (3)	Double			1	None	27	0.51	0.51	56	1.93	0.34	2.94
Bronze/LOF (3)	Double		Y	None	None	24	0.46	0.46	56	1.93	0.34	2.94
Bronze-LOF (3)	Double	Arg/Kry		1 2	N	32	0.51	0.51	59	1.71	0.30	3.33
Bronze-LOF (3)	Double	Arg/Kry	Y	1 2	N	29	0.46	0.46	59	1.71	0.30	3.33
Bronze-LOF (3)	Double	Argon		1 2	N	32	0.51	0.51	59	1.71	0.30	3.33
Bronze-LOF (3)	Double	Argon	Y	1 2	N	29	0.46	0.46	59	1.71	0.30	3.33
Grey-LOF (3)	Double			1	None	26	0.49	0.46	56	1.93	0.34	2.94
Grey-LOF (3)	Double		Y	None	None	23	0.44	0.41	56	1.93	0.34	2.94
Grey-LOF (3)	Double	Arg/Kry		1 2	N	31	0.49	0.46	59	1.71	0.30	3.33
Grey-LOF (3)	Double	Arg/Kry	Y	1	N	28	0.44	0.41	59	1.71	0.30	3.33
Grey-LOF (3)	Double	Argon		1 2	N	31	0.49	0.46	59	1.71	0.30	3.33
Grey-LOF (3)	Double	Argon	Y	1	N	28	0.44	0.41	59	1.71	0.30	3.33
LOF (3)	Double			1 2 3	None	38	0.69	0.68	56	1.93	0.34	2.94
LOF (3)	Double		Y	1 2 3	None	34	0.62	0.61	56	1.93	0.34	2.94
LOF (3)	Double	Arg/Kry		1 2 3	N	43	0.69	0.68	59	1.71	0.30	3.33
LOF (3)	Double	Arg/Kry	Y	1 2 3	N	39	0.62	0.61	59	1.71	0.30	3.33
LOF (3)	Double	Argon		1 2 3	N	43	0.69	0.68	59	1.71	0.30	3.33
LOF (3)	Double	Argon	Y	1 2 3	N	39	0.62	0.61	59	1.71	0.30	3.33
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	44	0.58	0.63	46	1.36	0.24	4.17
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2 3	N	40	0.52	0.57	46	1.36	0.24	4.17
LOF-LOF (2&3)	Double	Argon		1 2 3	N	44	0.58	0.63	46	1.36	0.24	4.17
LOF-LOF (2&3)	Double	Argon	Y	1 2 3	N	40	0.52	0.57	46	1.36	0.24	4.17
366 (2)	Triple	Arg/Kry		1 2 3	N,NC,SC,S	27	0.23	0.53	70	1.19	0.21	4.76
366 (2)	Triple	Arg/Kry	Y	1 2	N,NC,SC,S	25	0.21	0.48	70	1.25	0.22	4.55
366 (2)	Triple	Argon		1 2 3	N,NC,SC,S	27	0.23	0.53	69	1.19	0.21	4.76
366 (2)	Triple	Argon	Y	1 2	N,NC,SC,S	23	0.21	0.48	69	1.31	0.23	4.35
366 (2)	Triple	Krypton		1 2 3	N,NC,SC,S	30	0.22	0.53	73	1.02	0.18	5.56
366 (2)	Triple	Krypton	Y	1 2 3	N,NC,SC,S	27	0.20	0.48	73	1.14	0.20	5.00
Bronze	Triple	Arg/Kry		1 2	N	32	0.51	0.51	61	1.71	0.30	3.33
Bronze	Triple	Argon		1 2	N	33	0.52	0.51	61	1.71	0.30	3.33
Bronze	Triple	Krypton		1 2 3	N	35	0.51	0.51	63	1.59	0.28	3.57
Bronze-LOF (5)	Triple	Arg/Kry		1 2 3	N	38	0.47	0.47	67	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2 3	N	36	0.43	0.42	67	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Argon		1 2 3	N	37	0.47	0.47	67	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Argon	Y	1 2 3	N	35	0.43	0.42	67	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Krypton		1 2 3	N	42	0.47	0.47	70	1.14	0.20	5.00



1071 – Picture Window (No Sash) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF (5)	Triple	Krypton	Y	1 2 3	N	39	0.43	0.42	70	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	42	0.44	0.44	72	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	38	0.39	0.39	72	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2 3	N	40	0.44	0.44	71	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	38	0.39	0.39	71	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	45	0.44	0.44	76	0.91	0.16	6.25
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	41	0.39	0.39	76	0.97	0.17	5.88
Grey	Triple	Arg/Kry		1 2	N	31	0.49	0.46	61	1.71	0.30	3.33
Grey	Triple	Argon		1 2	N	31	0.49	0.46	61	1.71	0.30	3.33
Grey	Triple	Krypton		1 2	N	33	0.49	0.46	63	1.59	0.28	3.57
Grey-LOF (5)	Triple	Arg/Kry		1 2 3	N	37	0.45	0.43	67	1.31	0.23	4.35
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2 3	N	35	0.41	0.38	67	1.31	0.23	4.35
Grey-LOF (5)	Triple	Argon		1 2 3	N	36	0.45	0.43	67	1.36	0.24	4.17
Grey-LOF (5)	Triple	Argon	Y	1 2 3	N	34	0.41	0.38	67	1.36	0.24	4.17
Grey-LOF (5)	Triple	Krypton		1 2 3	N	41	0.45	0.43	70	1.14	0.20	5.00
Grey-LOF (5)	Triple	Krypton	Y	1 2 3	N	38	0.41	0.38	70	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	40	0.41	0.4	72	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	36	0.37	0.36	72	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Argon		1 2 3	N	39	0.41	0.4	71	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	36	0.37	0.36	71	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	44	0.41	0.4	76	0.91	0.16	6.25
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	40	0.37	0.36	76	0.97	0.17	5.88
LOF (5)	Triple	Arg/Kry		1 2 3	N	48	0.64	0.63	67	1.31	0.23	4.35
LOF (5)	Triple	Arg/Kry	Y	1 2 3	N	45	0.58	0.57	67	1.31	0.23	4.35
LOF (5)	Triple	Argon		1 2 3	N	47	0.64	0.63	67	1.36	0.24	4.17
LOF (5)	Triple	Argon	Y	1 2 3	N	44	0.58	0.57	67	1.36	0.24	4.17
LOF (5)	Triple	Krypton		1 2 3	N	52	0.64	0.63	70	1.14	0.20	5.00
LOF (5)	Triple	Krypton	Y	1 2 3	N	47	0.58	0.57	70	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	50	0.59	0.59	72	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N	46	0.53	0.53	72	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	49	0.59	0.59	71	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N	46	0.53	0.53	71	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	54	0.59	0.59	76	0.91	0.16	6.25
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N	50	0.54	0.53	76	0.97	0.17	5.88

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



1072 – Picture Window (With Sash) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	17	0.22	0.51	58	1.65	0.29	3.45
366 (2)	Double		Y	None	NC,SC,S	15	0.20	0.45	58	1.65	0.29	3.45
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	20	0.22	0.51	63	1.48	0.26	3.85
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	19	0.20	0.45	63	1.48	0.26	3.85
366 (2)	Double	Argon		1	N,NC,SC,S	20	0.22	0.51	62	1.48	0.26	3.85
366 (2)	Double	Argon	Y	1	N,NC,SC,S	19	0.20	0.45	62	1.48	0.26	3.85
Bronze/LOF (3)	Double			None	None	26	0.46	0.45	56	1.88	0.33	3.03
Bronze/LOF (3)	Double		Y	None	None	23	0.41	0.4	56	1.88	0.33	3.03
Bronze-LOF (3)	Double	Arg/Kry		1 2	N	29	0.45	0.45	59	1.71	0.30	3.33
Bronze-LOF (3)	Double	Arg/Kry	Y	1	None	26	0.41	0.4	59	1.71	0.30	3.33
Bronze-LOF (3)	Double	Argon		1 2	N	29	0.45	0.45	59	1.71	0.30	3.33
Bronze-LOF (3)	Double	Argon	Y	1	None	26	0.41	0.4	59	1.71	0.30	3.33
Grey-LOF (3)	Double			None	None	24	0.43	0.41	56	1.88	0.33	3.03
Grey-LOF (3)	Double		Y	None	None	22	0.39	0.36	56	1.88	0.33	3.03
Grey-LOF (3)	Double	Arg/Kry		1	N	28	0.43	0.41	59	1.71	0.30	3.33
Grey-LOF (3)	Double	Arg/Kry	Y	1	NC	25	0.39	0.36	59	1.71	0.30	3.33
Grey-LOF (3)	Double	Argon		1	None	28	0.43	0.41	59	1.71	0.30	3.33
Grey-LOF (3)	Double	Argon	Y	1	N,NC	25	0.39	0.36	59	1.71	0.30	3.33
LOF (3)	Double			1 2 3	None	34	0.61	0.6	56	1.88	0.33	3.03
LOF (3)	Double		Y	1 2	None	30	0.54	0.54	56	1.88	0.33	3.03
LOF (3)	Double	Arg/Kry		1 2 3	N	38	0.61	0.6	59	1.71	0.30	3.33
LOF (3)	Double	Arg/Kry	Y	1 2 3	N	35	0.55	0.54	59	1.71	0.30	3.33
LOF (3)	Double	Argon		1 2 3	N	38	0.61	0.6	59	1.71	0.30	3.33
LOF (3)	Double	Argon	Y	1 2 3	N	35	0.55	0.54	59	1.71	0.30	3.33
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	38	0.51	0.56	46	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2 3	N	35	0.46	0.5	46	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon		1 2 3	N	38	0.51	0.56	46	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon	Y	1 2 3	N	35	0.46	0.5	46	1.42	0.25	4.00
366 (2)	Triple	Arg/Kry		1 2 3	N,NC,SC,S	25	0.20	0.47	69	1.19	0.21	4.76
366 (2)	Triple	Arg/Kry	Y	1 2	N,NC,SC,S	22	0.18	0.42	69	1.31	0.23	4.35
366 (2)	Triple	Argon		1 2	N,NC,SC,S	24	0.20	0.47	69	1.25	0.22	4.55
366 (2)	Triple	Argon	Y	1 2	N,NC,SC,S	22	0.18	0.42	69	1.31	0.23	4.35
366 (2)	Triple	Krypton		1 2 3	N,NC,SC,S	28	0.20	0.47	72	1.08	0.19	5.26
366 (2)	Triple	Krypton	Y	1 2 3	N,NC,SC,S	24	0.18	0.42	72	1.19	0.21	4.76
Bronze	Triple	Arg/Kry		1 2	N	30	0.46	0.45	61	1.65	0.29	3.45
Bronze	Triple	Argon		1 2	N	29	0.46	0.45	61	1.71	0.30	3.33
Bronze	Triple	Krypton		1 2	N	32	0.46	0.45	63	1.59	0.28	3.57
Bronze-LOF (5)	Triple	Arg/Kry		1 2 3	N	36	0.42	0.42	67	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	32	0.38	0.37	67	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Argon		1 2 3	N	34	0.42	0.42	67	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Argon	Y	1 2	N,NC	32	0.38	0.37	67	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Krypton		1 2 3	N	38	0.42	0.42	70	1.19	0.21	4.76
Bronze-LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	36	0.38	0.37	70	1.19	0.21	4.76



1072 – Picture Window (With Sash) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	38	0.39	0.39	72	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	35	0.35	0.34	72	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	38	0.39	0.39	71	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	34	0.35	0.34	71	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	41	0.39	0.39	75	0.97	0.17	5.88
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	38	0.35	0.34	75	1.02	0.18	5.56
Grey	Triple	Arg/Kry		1 2	N	29	0.44	0.41	61	1.65	0.29	3.45
Grey	Triple	Argon		1	N	28	0.44	0.41	61	1.71	0.30	3.33
Grey	Triple	Krypton		1 2	N	30	0.43	0.41	63	1.59	0.28	3.57
Grey-LOF (5)	Triple	Arg/Kry		1 2 3	N,NC	34	0.40	0.38	67	1.31	0.23	4.35
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	31	0.36	0.34	67	1.36	0.24	4.17
Grey-LOF (5)	Triple	Argon		1 2	N,NC	33	0.40	0.38	67	1.36	0.24	4.17
Grey-LOF (5)	Triple	Argon	Y	1 2	N,NC	31	0.36	0.34	67	1.36	0.24	4.17
Grey-LOF (5)	Triple	Krypton		1 2 3	N,NC	37	0.40	0.38	70	1.19	0.21	4.76
Grey-LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	35	0.36	0.34	70	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	36	0.37	0.35	72	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	34	0.33	0.31	72	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	36	0.37	0.35	71	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	33	0.33	0.31	71	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	40	0.37	0.35	75	0.97	0.17	5.88
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	37	0.33	0.31	75	1.02	0.18	5.56
LOF (5)	Triple	Arg/Kry		1 2 3	N	44	0.57	0.56	67	1.31	0.23	4.35
LOF (5)	Triple	Arg/Kry	Y	1 2 3	N	40	0.51	0.5	67	1.36	0.24	4.17
LOF (5)	Triple	Argon		1 2 3	N	43	0.57	0.56	67	1.36	0.24	4.17
LOF (5)	Triple	Argon	Y	1 2 3	N	40	0.51	0.5	67	1.36	0.24	4.17
LOF (5)	Triple	Krypton		1 2 3	N	47	0.57	0.56	70	1.19	0.21	4.76
LOF (5)	Triple	Krypton	Y	1 2 3	N	43	0.51	0.5	70	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	45	0.52	0.52	72	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N	42	0.47	0.46	72	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	45	0.52	0.52	71	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N	41	0.47	0.46	71	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	49	0.53	0.52	75	0.97	0.17	5.88
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N	45	0.47	0.46	75	1.02	0.18	5.56

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



1171 – Casement Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	16	0.19	0.43	59	1.59	0.28	3.57
366 (2)	Double		Y	None	NC,SC,S	14	0.17	0.39	59	1.59	0.28	3.57
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	19	0.19	0.43	63	1.42	0.25	4.00
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	18	0.17	0.39	63	1.42	0.25	4.00
366 (2)	Double	Argon		1	N,NC,SC,S	19	0.19	0.43	63	1.42	0.25	4.00
366 (2)	Double	Argon	Y	1	N,NC,SC,S	18	0.17	0.39	63	1.42	0.25	4.00
Bronze/LOF (3)	Double			None	NC	23	0.39	0.38	56	1.76	0.31	3.23
Bronze/LOF (3)	Double		Y	None	NC	21	0.35	0.35	56	1.76	0.31	3.23
Bronze-LOF (3)	Double	Arg/Kry		1	N,NC	26	0.39	0.38	59	1.65	0.29	3.45
Bronze-LOF (3)	Double	Arg/Kry	Y	None	NC	23	0.35	0.35	59	1.65	0.29	3.45
Bronze-LOF (3)	Double	Argon		1	N,NC	26	0.39	0.38	59	1.65	0.29	3.45
Bronze-LOF (3)	Double	Argon	Y	None	NC	23	0.35	0.35	59	1.65	0.29	3.45
Grey-LOF (3)	Double			None	NC	22	0.37	0.35	56	1.76	0.31	3.23
Grey-LOF (3)	Double		Y	None	C	21	0.34	0.31	56	1.76	0.31	3.23
Grey-LOF (3)	Double	Arg/Kry		1	N,NC	25	0.37	0.35	59	1.65	0.29	3.45
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	23	0.34	0.31	59	1.65	0.29	3.45
Grey-LOF (3)	Double	Argon		1	NC	25	0.37	0.35	59	1.65	0.29	3.45
Grey-LOF (3)	Double	Argon	Y	None	N,NC	23	0.34	0.31	59	1.65	0.29	3.45
LOF (3)	Double			1 2	None	31	0.52	0.51	56	1.76	0.31	3.23
LOF (3)	Double		Y	1	None	28	0.47	0.46	56	1.76	0.31	3.23
LOF (3)	Double	Arg/Kry		1 2	N	33	0.52	0.51	59	1.65	0.29	3.45
LOF (3)	Double	Arg/Kry	Y	1 2	N	30	0.47	0.46	59	1.65	0.29	3.45
LOF (3)	Double	Argon		1 2	N	33	0.52	0.51	59	1.65	0.29	3.45
LOF (3)	Double	Argon	Y	1 2	N	30	0.47	0.46	59	1.65	0.29	3.45
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	34	0.44	0.48	46	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N,NC	31	0.40	0.43	46	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon		1 2 3	N	34	0.44	0.48	46	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon	Y	1 2	N,NC	31	0.40	0.43	46	1.42	0.25	4.00
366 (2)	Triple	Arg/Kry		1 2	N,NC,SC,S	23	0.17	0.4	69	1.19	0.21	4.76
366 (2)	Triple	Arg/Kry	Y	1 2	N,NC,SC,S	21	0.16	0.36	69	1.25	0.22	4.55
366 (2)	Triple	Argon		1 2	N,NC,SC,S	22	0.17	0.4	69	1.25	0.22	4.55
366 (2)	Triple	Argon	Y	1 2	N,NC,SC,S	20	0.16	0.36	69	1.31	0.23	4.35
366 (2)	Triple	Krypton		1 2 3	N,NC,SC,S	24	0.17	0.4	72	1.14	0.20	5.00
366 (2)	Triple	Krypton	Y	1 2	N,NC,SC,S	23	0.16	0.36	72	1.19	0.21	4.76
Bronze	Triple	Arg/Kry		1	N,NC	27	0.39	0.38	61	1.59	0.28	3.57
Bronze	Triple	Argon		1	N,NC	26	0.39	0.38	61	1.65	0.29	3.45
Bronze	Triple	Krypton		1	N,NC	28	0.39	0.38	63	1.54	0.27	3.70
Bronze-LOF (5)	Triple	Arg/Kry		1 2	N,NC	32	0.36	0.35	67	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	30	0.33	0.32	67	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Argon		1 2	N,NC	30	0.36	0.35	67	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Argon	Y	1 2	N,NC	29	0.33	0.32	67	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Krypton		1 2 3	N,NC	34	0.36	0.35	70	1.19	0.21	4.76
Bronze-LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	32	0.33	0.32	70	1.19	0.21	4.76



1171 – Casement Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	34	0.33	0.33	72	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC,SC	31	0.30	0.3	72	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	32	0.33	0.33	71	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC,SC	31	0.30	0.3	71	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	36	0.33	0.33	75	1.02	0.18	5.56
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC,SC	33	0.30	0.3	75	1.08	0.19	5.26
Grey	Triple	Arg/Kry		1	N,NC	26	0.37	0.35	61	1.59	0.28	3.57
Grey	Triple	Argon		1	N,NC	25	0.37	0.35	61	1.65	0.29	3.45
Grey	Triple	Krypton		1	N,NC	27	0.37	0.35	63	1.54	0.27	3.70
Grey-LOF (5)	Triple	Arg/Kry		1 2	N,NC	30	0.34	0.32	67	1.31	0.23	4.35
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	29	0.31	0.29	67	1.31	0.23	4.35
Grey-LOF (5)	Triple	Argon		1 2	N,NC	29	0.34	0.32	67	1.36	0.24	4.17
Grey-LOF (5)	Triple	Argon	Y	1 2	N,NC	28	0.31	0.29	67	1.36	0.24	4.17
Grey-LOF (5)	Triple	Krypton		1 2 3	N,NC	33	0.34	0.32	70	1.19	0.21	4.76
Grey-LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	31	0.31	0.29	70	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	32	0.31	0.3	72	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC,SC	30	0.29	0.27	72	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	31	0.31	0.3	71	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC,SC	30	0.29	0.27	71	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	35	0.31	0.3	75	1.02	0.18	5.56
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC,SC	33	0.29	0.27	75	1.08	0.19	5.26
LOF (5)	Triple	Arg/Kry		1 2 3	N	38	0.48	0.48	67	1.31	0.23	4.35
LOF (5)	Triple	Arg/Kry	Y	1 2 3	N	36	0.44	0.43	67	1.31	0.23	4.35
LOF (5)	Triple	Argon		1 2 3	N	37	0.48	0.48	67	1.36	0.24	4.17
LOF (5)	Triple	Argon	Y	1 2 3	N	35	0.44	0.43	67	1.36	0.24	4.17
LOF (5)	Triple	Krypton		1 2 3	N	42	0.49	0.48	70	1.19	0.21	4.76
LOF (5)	Triple	Krypton	Y	1 2 3	N	39	0.44	0.43	70	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	40	0.45	0.44	72	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N	37	0.41	0.4	72	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	39	0.45	0.44	71	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N	37	0.41	0.4	71	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	43	0.45	0.44	75	1.02	0.18	5.56
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N	39	0.41	0.4	75	1.08	0.19	5.26

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.

1173 – Awning Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	14	0.19	0.43	57	1.65	0.29	3.45
366 (2)	Double		Y	None	NC,SC,S	13	0.17	0.39	57	1.65	0.29	3.45
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	18	0.19	0.43	62	1.48	0.26	3.85
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	17	0.17	0.39	62	1.48	0.26	3.85
366 (2)	Double	Argon		1	N,NC,SC,S	18	0.19	0.43	62	1.48	0.26	3.85
366 (2)	Double	Argon	Y	1	N,NC,SC,S	17	0.17	0.39	62	1.48	0.26	3.85
Bronze/LOF (3)	Double			None	C	22	0.39	0.38	55	1.82	0.32	3.13
Bronze/LOF (3)	Double		Y	None	C	20	0.35	0.35	55	1.82	0.32	3.13
Bronze-LOF (3)	Double	Arg/Kry		1	N,NC	26	0.39	0.38	59	1.65	0.29	3.45
Bronze-LOF (3)	Double	Arg/Kry	Y	None	NC	24	0.35	0.35	59	1.65	0.29	3.45
Bronze-LOF (3)	Double	Argon		1	N,NC	26	0.39	0.38	58	1.65	0.29	3.45
Bronze-LOF (3)	Double	Argon	Y	None	NC	24	0.35	0.35	58	1.65	0.29	3.45
Grey-LOF (3)	Double			None	C	21	0.37	0.35	55	1.82	0.32	3.13
Grey-LOF (3)	Double		Y	None	C	19	0.34	0.31	55	1.82	0.32	3.13
Grey-LOF (3)	Double	Arg/Kry		1	N,NC	25	0.37	0.35	59	1.65	0.29	3.45
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	23	0.34	0.31	59	1.65	0.29	3.45
Grey-LOF (3)	Double	Argon		1	N,NC	25	0.37	0.35	58	1.65	0.29	3.45
Grey-LOF (3)	Double	Argon	Y	None	NC	23	0.34	0.31	58	1.65	0.29	3.45
LOF (3)	Double			1 2	None	30	0.52	0.51	55	1.82	0.32	3.13
LOF (3)	Double		Y	1	None	27	0.47	0.46	55	1.82	0.32	3.13
LOF (3)	Double	Arg/Kry		1 2 3	N	34	0.52	0.51	59	1.65	0.29	3.45
LOF (3)	Double	Arg/Kry	Y	1 2	N	31	0.47	0.46	59	1.65	0.29	3.45
LOF (3)	Double	Argon		1 2 3	N	34	0.52	0.51	58	1.65	0.29	3.45
LOF (3)	Double	Argon	Y	1 2	N	31	0.47	0.46	58	1.65	0.29	3.45
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	34	0.44	0.48	46	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N,NC	32	0.40	0.43	46	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon		1 2 3	N	34	0.44	0.48	46	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon	Y	1 2	N,NC	32	0.40	0.43	46	1.42	0.25	4.00
366 (2)	Triple	Arg/Kry		1 2	N,NC,SC,S	22	0.17	0.4	70	1.25	0.22	4.55
366 (2)	Triple	Arg/Kry	Y	1 2	N,NC,SC,S	21	0.16	0.36	70	1.25	0.22	4.55
366 (2)	Triple	Argon		1 2	N,NC,SC,S	22	0.17	0.4	69	1.25	0.22	4.55
366 (2)	Triple	Argon	Y	1 2	N,NC,SC,S	20	0.16	0.36	69	1.31	0.23	4.35
366 (2)	Triple	Krypton		1 2 3	N,NC,SC,S	24	0.17	0.4	73	1.14	0.20	5.00
366 (2)	Triple	Krypton	Y	1 2	N,NC,SC,S	23	0.16	0.36	73	1.19	0.21	4.76
Bronze	Triple	Arg/Kry		1	N,NC	26	0.39	0.38	61	1.65	0.29	3.45
Bronze	Triple	Argon		1	N,NC	26	0.39	0.38	61	1.65	0.29	3.45
Bronze	Triple	Krypton		1 2	N,NC	29	0.39	0.38	63	1.54	0.27	3.70
Bronze-LOF (5)	Triple	Arg/Kry		1 2	N,NC	32	0.36	0.35	67	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	30	0.33	0.32	67	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Argon		1 2	N,NC	31	0.36	0.35	66	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Argon	Y	1 2	N,NC	29	0.33	0.32	66	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Krypton		1 2 3	N,NC	34	0.36	0.35	70	1.19	0.21	4.76
Bronze-LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	33	0.33	0.32	70	1.19	0.21	4.76

1173 – Awning Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	34	0.33	0.33	72	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC,SC	31	0.30	0.3	72	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	33	0.33	0.33	71	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC,SC	31	0.30	0.3	71	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	36	0.33	0.33	75	1.02	0.18	5.56
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC,SC	33	0.30	0.3	75	1.08	0.19	5.26
Grey	Triple	Arg/Kry		1	N,NC	25	0.37	0.35	61	1.65	0.29	3.45
Grey	Triple	Argon		1	N,NC	25	0.37	0.35	61	1.65	0.29	3.45
Grey	Triple	Krypton		1	N,NC	27	0.37	0.35	63	1.54	0.27	3.70
Grey-LOF (5)	Triple	Arg/Kry		1 2	N,NC	31	0.34	0.32	67	1.31	0.23	4.35
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	29	0.31	0.29	67	1.31	0.23	4.35
Grey-LOF (5)	Triple	Argon		1 2	N,NC	29	0.34	0.32	66	1.36	0.24	4.17
Grey-LOF (5)	Triple	Argon	Y	1 2	N,NC	28	0.31	0.29	66	1.36	0.24	4.17
Grey-LOF (5)	Triple	Krypton		1 2 3	N,NC	33	0.34	0.32	70	1.19	0.21	4.76
Grey-LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	31	0.31	0.29	70	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	33	0.31	0.3	72	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC,SC	30	0.29	0.27	72	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	31	0.31	0.3	71	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC,SC	30	0.29	0.27	71	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	35	0.31	0.3	75	1.02	0.18	5.56
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC,SC	33	0.29	0.27	75	1.08	0.19	5.26
LOF (5)	Triple	Arg/Kry		1 2 3	N	39	0.48	0.48	67	1.31	0.23	4.35
LOF (5)	Triple	Arg/Kry	Y	1 2 3	N	36	0.44	0.43	67	1.31	0.23	4.35
LOF (5)	Triple	Argon		1 2 3	N	38	0.48	0.48	66	1.36	0.24	4.17
LOF (5)	Triple	Argon	Y	1 2 3	N	35	0.44	0.43	66	1.36	0.24	4.17
LOF (5)	Triple	Krypton		1 2 3	N	42	0.49	0.48	70	1.19	0.21	4.76
LOF (5)	Triple	Krypton	Y	1 2 3	N	39	0.44	0.43	70	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	41	0.45	0.44	72	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N	37	0.41	0.4	72	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	40	0.45	0.44	71	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N	37	0.41	0.4	71	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	43	0.45	0.44	75	1.02	0.18	5.56
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N	40	0.41	0.4	75	1.08	0.19	5.26

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.

1271 – Double Hung Tilt Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	C,SC,S	12	0.21	0.48	56	1.76	0.31	3.23
366 (2)	Double		Y	None	C,SC,S	11	0.19	0.43	56	1.76	0.31	3.23
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	16	0.20	0.48	60	1.54	0.27	3.70
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	16	0.19	0.43	60	1.54	0.27	3.70
366 (2)	Double	Argon		1	N,NC,SC,S	17	0.21	0.48	60	1.54	0.27	3.70
366 (2)	Double	Argon	Y	1	N,NC,SC,S	16	0.19	0.43	60	1.54	0.27	3.70
Bronze/LOF (3)	Double			None	None	21	0.43	0.43	53	1.93	0.34	2.94
Bronze/LOF (3)	Double		Y	None	None	19	0.39	0.38	53	1.93	0.34	2.94
Bronze-LOF (3)	Double	Arg/Kry		1	None	25	0.43	0.43	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Arg/Kry	Y	None	NC	22	0.39	0.38	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon		1	None	25	0.43	0.43	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon	Y	None	NC	22	0.39	0.38	57	1.76	0.31	3.23
Grey-LOF (3)	Double			None	None	20	0.41	0.39	53	1.93	0.34	2.94
Grey-LOF (3)	Double		Y	None	None	18	0.37	0.34	53	1.93	0.34	2.94
Grey-LOF (3)	Double	Arg/Kry		None	None	24	0.41	0.39	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	21	0.37	0.34	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon		None	None	24	0.41	0.39	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon	Y	None	NC	21	0.37	0.34	57	1.76	0.31	3.23
LOF (3)	Double			1 2	None	30	0.58	0.57	53	1.93	0.34	2.94
LOF (3)	Double		Y	1	None	26	0.51	0.51	53	1.93	0.34	2.94
LOF (3)	Double	Arg/Kry		1 2	None	33	0.58	0.57	57	1.76	0.31	3.23
LOF (3)	Double	Arg/Kry	Y	1 2	None	30	0.52	0.51	57	1.76	0.31	3.23
LOF (3)	Double	Argon		1 2	None	33	0.58	0.57	57	1.76	0.31	3.23
LOF (3)	Double	Argon	Y	1 2	None	30	0.52	0.51	57	1.76	0.31	3.23
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	34	0.49	0.53	45	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N	31	0.44	0.47	45	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon		1 2 3	N	34	0.49	0.53	45	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon	Y	1 2	N	31	0.44	0.47	45	1.48	0.26	3.85
366 (2)	Triple	Arg/Kry		1	N,NC,SC,S	16	0.20	0.44	63	1.54	0.27	3.70
366 (2)	Triple	Argon		None	NC,SC,S	15	0.20	0.44	63	1.59	0.28	3.57
366 (2)	Triple	Krypton		1 2	N,NC,SC,S	21	0.19	0.44	67	1.31	0.23	4.35
Bronze	Triple	Arg/Kry		None	None	22	0.44	0.43	56	1.93	0.34	2.94
Bronze	Triple	Argon		None	None	22	0.44	0.43	56	1.93	0.34	2.94
Bronze	Triple	Krypton		1	None	25	0.43	0.43	59	1.76	0.31	3.23
Bronze-LOF (5)	Triple	Arg/Kry		1	N,NC	25	0.40	0.39	61	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Argon		1	N,NC	25	0.40	0.39	60	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Krypton		1 2	N,NC	30	0.40	0.39	64	1.42	0.25	4.00
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1	N,NC	27	0.37	0.37	64	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2	N,NC	27	0.37	0.37	64	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Krypton		ABC	N,NC	32	0.37	0.37	68	1.25	0.22	4.55
Grey	Triple	Arg/Kry		None	None	20	0.42	0.39	56	1.93	0.34	2.94
Grey	Triple	Argon		None	None	20	0.42	0.39	56	1.93	0.34	2.94
Grey	Triple	Krypton		None	None	24	0.41	0.39	59	1.76	0.31	3.23

1271 - Double Hung Tilt Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Grey-LOF (5)	Triple	Arg/Kry		None	N,NC	24	0.38	0.36	61	1.65	0.29	3.45
Grey-LOF (5)	Triple	Argon		None	N,NC	24	0.38	0.36	60	1.65	0.29	3.45
Grey-LOF (5)	Triple	Krypton		1 2	N,NC	29	0.38	0.36	64	1.42	0.25	4.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1	N,NC	26	0.35	0.33	64	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Argon		1	N,NC	26	0.35	0.33	64	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2	N,NC	31	0.35	0.33	68	1.25	0.22	4.55
LOF (5)	Triple	Arg/Kry		1 2	N	33	0.53	0.53	61	1.65	0.29	3.45
LOF (5)	Triple	Argon		1 2	N	33	0.53	0.53	60	1.65	0.29	3.45
LOF (5)	Triple	Krypton		1 2 3	N	39	0.54	0.53	64	1.42	0.25	4.00
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	34	0.49	0.49	64	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	34	0.49	0.49	64	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	40	0.50	0.49	68	1.25	0.22	4.55

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



1272 – Double Slider Tilt Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	C,SC,S	12	0.21	0.48	57	1.76	0.31	3.23
366 (2)	Double		Y	None	C,SC,S	11	0.19	0.43	57	1.76	0.31	3.23
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	17	0.20	0.48	61	1.54	0.27	3.70
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	16	0.18	0.43	61	1.54	0.27	3.70
366 (2)	Double	Argon		1	N,NC,SC,S	17	0.21	0.48	61	1.54	0.27	3.70
366 (2)	Double	Argon	Y	1	N,NC,SC,S	16	0.19	0.43	61	1.54	0.27	3.70
Bronze/LOF (3)	Double			None	None	21	0.43	0.43	54	1.93	0.34	2.94
Bronze/LOF (3)	Double		Y	None	None	19	0.39	0.38	54	1.93	0.34	2.94
Bronze-LOF (3)	Double	Arg/Kry		1	None	25	0.43	0.43	58	1.76	0.31	3.23
Bronze-LOF (3)	Double	Arg/Kry	Y	None	NC	23	0.39	0.38	58	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon		1	None	25	0.43	0.43	58	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon	Y	None	NC	23	0.39	0.38	58	1.76	0.31	3.23
Grey-LOF (3)	Double			None	None	20	0.41	0.39	54	1.93	0.34	2.94
Grey-LOF (3)	Double		Y	None	None	18	0.37	0.34	54	1.93	0.34	2.94
Grey-LOF (3)	Double	Arg/Kry		None	None	24	0.41	0.39	58	1.76	0.31	3.23
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	22	0.37	0.34	58	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon		None	None	24	0.41	0.39	58	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon	Y	None	NC	22	0.37	0.34	58	1.76	0.31	3.23
LOF (3)	Double			1 2	None	30	0.58	0.57	54	1.93	0.34	2.94
LOF (3)	Double		Y	1	None	26	0.51	0.51	54	1.93	0.34	2.94
LOF (3)	Double	Arg/Kry		1 2 3	None	34	0.58	0.57	58	1.76	0.31	3.23
LOF (3)	Double	Arg/Kry	Y	1 2	None	30	0.52	0.51	58	1.76	0.31	3.23
LOF (3)	Double	Argon		1 2 3	None	34	0.58	0.57	58	1.76	0.31	3.23
LOF (3)	Double	Argon	Y	1 2	None	30	0.52	0.51	58	1.76	0.31	3.23
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	34	0.49	0.53	46	1.54	0.27	3.70
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N	31	0.44	0.47	46	1.54	0.27	3.70
LOF-LOF (2&3)	Double	Argon		1 2 3	N	34	0.49	0.53	46	1.54	0.27	3.70
LOF-LOF (2&3)	Double	Argon	Y	1 2	N	31	0.44	0.47	46	1.54	0.27	3.70
366 (2)	Triple	Arg/Kry		1	N,NC,SC,S	16	0.19	0.44	62	1.54	0.27	3.70
366 (2)	Triple	Argon		1	NC,SC,S	16	0.20	0.44	62	1.59	0.28	3.57
366 (2)	Triple	Krypton		1 2	N,NC,SC,S	21	0.19	0.44	66	1.31	0.23	4.35
Bronze	Triple	Arg/Kry		None	None	22	0.44	0.43	56	1.93	0.34	2.94
Bronze	Triple	Argon		None	None	22	0.44	0.43	56	1.93	0.34	2.94
Bronze	Triple	Krypton		1	None	25	0.43	0.43	59	1.76	0.31	3.23
Bronze-LOF (5)	Triple	Arg/Kry		1	N,NC	26	0.40	0.39	61	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Argon		1	N,NC	26	0.40	0.39	60	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Krypton		1 2	N,NC	31	0.40	0.39	64	1.42	0.25	4.00
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1	N,NC	28	0.37	0.37	64	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Argon		1	N,NC	28	0.37	0.37	64	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2	N,NC	33	0.37	0.37	68	1.25	0.22	4.55
Grey	Triple	Arg/Kry		None	None	21	0.42	0.39	56	1.93	0.34	2.94
Grey	Triple	Argon		None	None	21	0.42	0.39	56	1.93	0.34	2.94
Grey	Triple	Krypton		None	None	24	0.41	0.39	59	1.76	0.31	3.23

1272 – Double Slider Tilt Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Grey-LOF (5)	Triple	Arg/Kry		1	N,NC	25	0.38	0.36	61	1.65	0.29	3.45
Grey-LOF (5)	Triple	Argon		1	N,NC	25	0.38	0.36	60	1.65	0.29	3.45
Grey-LOF (5)	Triple	Krypton		1 2	N,NC	30	0.38	0.36	64	1.42	0.25	4.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1	N,NC	27	0.35	0.33	64	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Argon		1	N,NC	27	0.35	0.33	64	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2	N,NC	32	0.35	0.33	68	1.25	0.22	4.55
LOF (5)	Triple	Arg/Kry		1 2	N	33	0.53	0.53	61	1.65	0.29	3.45
LOF (5)	Triple	Argon		1 2	N	33	0.53	0.53	60	1.65	0.29	3.45
LOF (5)	Triple	Krypton		1 2 3	N	39	0.54	0.53	64	1.42	0.25	4.00
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	35	0.49	0.49	64	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	35	0.49	0.49	64	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	40	0.50	0.49	68	1.25	0.22	4.55

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.

1273 – Double Slider Liftout Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	C,SC,S	12	0.21	0.48	57	1.76	0.31	3.23
366 (2)	Double		Y	None	C,SC,S	11	0.19	0.43	57	1.76	0.31	3.23
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	17	0.20	0.48	61	1.54	0.27	3.70
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	16	0.18	0.43	61	1.54	0.27	3.70
366 (2)	Double	Argon		1	N,NC,SC,S	17	0.20	0.48	61	1.54	0.27	3.70
366 (2)	Double	Argon	Y	1	N,NC,SC,S	16	0.18	0.43	61	1.54	0.27	3.70
Bronze/LOF (3)	Double			None	None	21	0.43	0.42	54	1.93	0.34	2.94
Bronze/LOF (3)	Double		Y	None	None	19	0.39	0.38	54	1.93	0.34	2.94
Bronze-LOF (3)	Double	Arg/Kry		1	None	25	0.43	0.42	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Arg/Kry	Y	None	NC	22	0.38	0.38	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon		1	None	25	0.43	0.42	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon	Y	None	NC	22	0.38	0.38	57	1.76	0.31	3.23
Grey-LOF (3)	Double			None	None	20	0.41	0.39	54	1.93	0.34	2.94
Grey-LOF (3)	Double		Y	None	None	18	0.37	0.34	54	1.93	0.34	2.94
Grey-LOF (3)	Double	Arg/Kry		None	None	24	0.41	0.39	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	21	0.37	0.34	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon		None	None	24	0.41	0.39	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon	Y	None	NC	21	0.37	0.34	57	1.76	0.31	3.23
LOF (3)	Double			1 2	None	29	0.57	0.57	54	1.93	0.34	2.94
LOF (3)	Double		Y	1	None	26	0.51	0.51	54	1.93	0.34	2.94
LOF (3)	Double	Arg/Kry		1 2 3	None	34	0.58	0.57	57	1.76	0.31	3.23
LOF (3)	Double	Arg/Kry	Y	1 2	None	30	0.52	0.51	57	1.76	0.31	3.23
LOF (3)	Double	Argon		1 2 3	None	34	0.58	0.57	57	1.76	0.31	3.23
LOF (3)	Double	Argon	Y	1 2	None	30	0.52	0.51	57	1.76	0.31	3.23
LOF-LOF (2&3)	Double	Arg/Kry		1 2	N	33	0.49	0.53	46	1.54	0.27	3.70
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N	30	0.43	0.47	46	1.54	0.27	3.70
LOF-LOF (2&3)	Double	Argon		1 2	N	33	0.49	0.53	45	1.54	0.27	3.70
LOF-LOF (2&3)	Double	Argon	Y	1 2	N	30	0.43	0.47	45	1.54	0.27	3.70
366 (2)	Triple	Arg/Kry		1	N,NC,SC,S	16	0.19	0.44	62	1.54	0.27	3.70
366 (2)	Triple	Argon		None	NC,SC,S	15	0.19	0.44	62	1.59	0.28	3.57
366 (2)	Triple	Krypton		1 2	N,NC,SC,S	21	0.19	0.44	66	1.31	0.23	4.35
Bronze	Triple	Arg/Kry		None	None	21	0.43	0.42	56	1.93	0.34	2.94
Bronze	Triple	Argon		None	None	21	0.43	0.42	55	1.93	0.34	2.94
Bronze	Triple	Krypton		1	None	25	0.43	0.42	59	1.76	0.31	3.23
Bronze-LOF (5)	Triple	Arg/Kry		1	N,NC	26	0.40	0.39	61	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Argon		1	N,NC	26	0.40	0.39	60	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Krypton		1 2	N,NC	31	0.40	0.39	64	1.42	0.25	4.00
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1	N,NC	28	0.37	0.36	64	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Argon		1	N,NC	28	0.37	0.36	63	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2	N,NC	33	0.37	0.36	68	1.25	0.22	4.55
Grey	Triple	Arg/Kry		None	None	20	0.41	0.38	56	1.93	0.34	2.94
Grey	Triple	Argon		None	None	20	0.41	0.38	55	1.93	0.34	2.94
Grey	Triple	Krypton		None	None	24	0.41	0.38	59	1.76	0.31	3.23

1273 – Double Slider Liftout Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Grey-LOF (5)	Triple	Arg/Kry		None	N,NC	24	0.38	0.36	61	1.65	0.29	3.45
Grey-LOF (5)	Triple	Argon		None	N,NC	24	0.38	0.36	60	1.65	0.29	3.45
Grey-LOF (5)	Triple	Krypton		1 2	N,NC	29	0.38	0.36	64	1.42	0.25	4.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1	N,NC	26	0.35	0.33	64	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Argon		1	N,NC	26	0.35	0.33	63	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2	N,NC	31	0.35	0.33	68	1.25	0.22	4.55
LOF (5)	Triple	Arg/Kry		1 2	N	33	0.53	0.53	61	1.65	0.29	3.45
LOF (5)	Triple	Argon		1 2	N	33	0.53	0.53	60	1.65	0.29	3.45
LOF (5)	Triple	Krypton		1 2 3	N	39	0.54	0.53	64	1.42	0.25	4.00
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	35	0.49	0.49	64	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	35	0.49	0.49	63	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	40	0.50	0.49	68	1.25	0.22	4.55

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.

1371 – Single Hung Tilt Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	C,SC,S	13	0.22	0.51	56	1.76	0.31	3.23
366 (2)	Double		Y	None	C,SC,S	12	0.20	0.45	56	1.76	0.31	3.23
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	17	0.21	0.51	60	1.54	0.27	3.70
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	16	0.19	0.45	60	1.54	0.27	3.70
366 (2)	Double	Argon		1	N,NC,SC,S	18	0.22	0.51	60	1.54	0.27	3.70
366 (2)	Double	Argon	Y	1	N,NC,SC,S	17	0.20	0.45	60	1.54	0.27	3.70
Bronze/LOF (3)	Double			None	None	23	0.45	0.45	53	1.93	0.34	2.94
Bronze/LOF (3)	Double		Y	None	None	20	0.41	0.4	53	1.93	0.34	2.94
Bronze-LOF (3)	Double	Arg/Kry		1	None	26	0.45	0.45	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Arg/Kry	Y	None	None	24	0.41	0.4	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon		1	None	26	0.45	0.45	56	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon	Y	None	None	24	0.41	0.4	56	1.76	0.31	3.23
Grey-LOF (3)	Double			None	None	21	0.43	0.41	53	1.93	0.34	2.94
Grey-LOF (3)	Double		Y	None	None	19	0.39	0.36	53	1.93	0.34	2.94
Grey-LOF (3)	Double	Arg/Kry		1	None	25	0.43	0.41	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	23	0.39	0.36	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon		1	None	25	0.43	0.41	56	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon	Y	None	NC	23	0.39	0.36	56	1.76	0.31	3.23
LOF (3)	Double			1 2	None	32	0.61	0.6	53	1.93	0.34	2.94
LOF (3)	Double		Y	1	None	28	0.54	0.54	53	1.93	0.34	2.94
LOF (3)	Double	Arg/Kry		1 2 3	None	36	0.61	0.6	57	1.76	0.31	3.23
LOF (3)	Double	Arg/Kry	Y	1 2	None	32	0.55	0.54	57	1.76	0.31	3.23
LOF (3)	Double	Argon		1 2 3	None	36	0.61	0.6	56	1.76	0.31	3.23
LOF (3)	Double	Argon	Y	1 2	None	32	0.55	0.54	56	1.76	0.31	3.23
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	36	0.51	0.56	45	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N	33	0.46	0.5	45	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon		1 2 3	N	36	0.51	0.56	45	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon	Y	1 2	N	33	0.46	0.5	45	1.48	0.26	3.85
366 (2)	Triple	Arg/Kry		1	N,NC,SC,S	17	0.20	0.47	62	1.54	0.27	3.70
366 (2)	Triple	Argon		1	NC,SC,S	16	0.21	0.47	62	1.59	0.28	3.57
366 (2)	Triple	Krypton		1 2	N,NC,SC,S	23	0.20	0.47	66	1.25	0.22	4.55
Bronze	Triple	Arg/Kry		None	None	23	0.46	0.45	56	1.93	0.34	2.94
Bronze	Triple	Argon		None	None	23	0.46	0.45	55	1.93	0.34	2.94
Bronze	Triple	Krypton		1	None	27	0.46	0.45	58	1.76	0.31	3.23
Bronze-LOF (5)	Triple	Arg/Kry		1	N	27	0.42	0.42	60	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Argon		1	N	27	0.42	0.42	60	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Krypton		1 2	N	32	0.42	0.42	63	1.42	0.25	4.00
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	30	0.39	0.38	64	1.42	0.25	4.00
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2	N,NC	29	0.39	0.38	63	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	35	0.39	0.38	67	1.19	0.21	4.76
Grey	Triple	Arg/Kry		None	None	22	0.44	0.41	56	1.93	0.34	2.94
Grey	Triple	Argon		None	None	22	0.44	0.41	55	1.93	0.34	2.94
Grey	Triple	Krypton		1	None	25	0.43	0.41	58	1.76	0.31	3.23

1371 – Single Hung Tilt Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Grey-LOF (5)	Triple	Arg/Kry		1	N,NC	26	0.40	0.38	60	1.65	0.29	3.45
Grey-LOF (5)	Triple	Argon		1	N,NC	26	0.40	0.38	60	1.65	0.29	3.45
Grey-LOF (5)	Triple	Krypton		1 2	N,NC	31	0.40	0.38	63	1.42	0.25	4.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	29	0.37	0.35	64	1.42	0.25	4.00
Grey-LOF-LOF (3&5)	Triple	Argon		1	N,NC	28	0.37	0.35	63	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	34	0.37	0.35	67	1.19	0.21	4.76
LOF (5)	Triple	Arg/Kry		1 2 3	N	35	0.56	0.56	60	1.65	0.29	3.45
LOF (5)	Triple	Argon		1 2 3	N	35	0.56	0.56	60	1.65	0.29	3.45
LOF (5)	Triple	Krypton		1 2 3	N	41	0.57	0.56	63	1.42	0.25	4.00
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	38	0.52	0.52	64	1.42	0.25	4.00
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	36	0.52	0.52	63	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	43	0.52	0.52	67	1.19	0.21	4.76
(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.												
(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.												
(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.												



1372 – Single Slider Liftout Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	C,SC,S	13	0.22	0.51	57	1.76	0.31	3.23
366 (2)	Double		Y	None	C,SC,S	12	0.20	0.45	57	1.76	0.31	3.23
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	18	0.21	0.51	61	1.54	0.27	3.70
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	16	0.19	0.45	61	1.54	0.27	3.70
366 (2)	Double	Argon		1	N,NC,SC,S	18	0.22	0.51	60	1.54	0.27	3.70
366 (2)	Double	Argon	Y	1	N,NC,SC,S	16	0.19	0.45	60	1.54	0.27	3.70
Bronze/LOF (3)	Double			None	None	23	0.45	0.45	54	1.93	0.34	2.94
Bronze/LOF (3)	Double		Y	None	None	20	0.41	0.4	54	1.93	0.34	2.94
Bronze-LOF (3)	Double	Arg/Kry		1	None	26	0.45	0.45	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Arg/Kry	Y	None	None	24	0.41	0.4	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon		1	None	26	0.45	0.45	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon	Y	None	None	24	0.41	0.4	57	1.76	0.31	3.23
Grey-LOF (3)	Double			None	None	22	0.43	0.41	54	1.93	0.34	2.94
Grey-LOF (3)	Double		Y	None	None	19	0.39	0.36	54	1.93	0.34	2.94
Grey-LOF (3)	Double	Arg/Kry		1	None	25	0.43	0.41	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	23	0.39	0.36	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon		1	None	25	0.43	0.41	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon	Y	None	NC	23	0.39	0.36	57	1.76	0.31	3.23
LOF (3)	Double			1 2	None	32	0.61	0.6	54	1.93	0.34	2.94
LOF (3)	Double		Y	1	None	28	0.54	0.54	54	1.93	0.34	2.94
LOF (3)	Double	Arg/Kry		1 2 3	None	36	0.61	0.6	57	1.76	0.31	3.23
LOF (3)	Double	Arg/Kry	Y	1 2	None	32	0.55	0.54	57	1.76	0.31	3.23
LOF (3)	Double	Argon		1 2 3	None	36	0.61	0.6	57	1.76	0.31	3.23
LOF (3)	Double	Argon	Y	1 2	None	32	0.55	0.54	57	1.76	0.31	3.23
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	36	0.51	0.56	46	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N	33	0.46	0.5	46	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon		1 2 3	N	36	0.51	0.56	45	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon	Y	1 2	N	33	0.46	0.5	45	1.48	0.26	3.85
366 (2)	Triple	Arg/Kry		1	N,NC,SC,S	17	0.20	0.47	62	1.54	0.27	3.70
366 (2)	Triple	Argon		1	NC,SC,S	16	0.21	0.47	61	1.59	0.28	3.57
366 (2)	Triple	Krypton		1 2	N,NC,SC,S	23	0.20	0.47	66	1.25	0.22	4.55
Bronze	Triple	Arg/Kry		None	None	23	0.46	0.45	55	1.93	0.34	2.94
Bronze	Triple	Argon		None	None	23	0.46	0.45	55	1.93	0.34	2.94
Bronze	Triple	Krypton		1	None	26	0.45	0.45	58	1.76	0.31	3.23
Bronze-LOF (5)	Triple	Arg/Kry		1	N	27	0.42	0.41	60	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Argon		1	N	27	0.42	0.41	60	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Krypton		1 2	N	32	0.42	0.41	63	1.42	0.25	4.00
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	30	0.39	0.38	63	1.42	0.25	4.00
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2	N,NC	29	0.39	0.38	63	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	35	0.39	0.38	67	1.19	0.21	4.76
Grey	Triple	Arg/Kry		None	None	22	0.44	0.41	55	1.93	0.34	2.94
Grey	Triple	Argon		None	None	22	0.44	0.41	55	1.93	0.34	2.94
Grey	Triple	Krypton		1	None	25	0.43	0.41	58	1.76	0.31	3.23



1372 – Single Slider Liftout Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Grey-LOF (5)	Triple	Arg/Kry		1	N,NC	26	0.40	0.38	60	1.65	0.29	3.45
Grey-LOF (5)	Triple	Argon		1	N,NC	26	0.40	0.38	60	1.65	0.29	3.45
Grey-LOF (5)	Triple	Krypton		1 2	N,NC	31	0.40	0.38	63	1.42	0.25	4.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	29	0.37	0.35	63	1.42	0.25	4.00
Grey-LOF-LOF (3&5)	Triple	Argon		1	N,NC	28	0.37	0.35	63	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	34	0.37	0.35	67	1.19	0.21	4.76
LOF (5)	Triple	Arg/Kry		1 2 3	N	35	0.56	0.56	60	1.65	0.29	3.45
LOF (5)	Triple	Argon		1 2 3	N	35	0.56	0.56	60	1.65	0.29	3.45
LOF (5)	Triple	Krypton		1 2 3	N	40	0.55	0.56	63	1.42	0.25	4.00
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	38	0.52	0.52	63	1.42	0.25	4.00
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	37	0.52	0.52	63	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	43	0.52	0.52	67	1.19	0.21	4.76

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



1374 – 3-Lite (End Vent) Single Slider Liftout Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	C,SC,S	13	0.22	0.51	57	1.76	0.31	3.23
366 (2)	Double		Y	None	C,SC,S	12	0.20	0.45	57	1.76	0.31	3.23
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	18	0.21	0.51	61	1.54	0.27	3.70
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	16	0.19	0.45	61	1.54	0.27	3.70
366 (2)	Double	Argon		1	N,NC,SC,S	18	0.22	0.51	60	1.54	0.27	3.70
366 (2)	Double	Argon	Y	1	N,NC,SC,S	16	0.19	0.45	60	1.54	0.27	3.70
Bronze/LOF (3)	Double			None	None	23	0.45	0.45	54	1.93	0.34	2.94
Bronze/LOF (3)	Double		Y	None	None	20	0.41	0.4	54	1.93	0.34	2.94
Bronze-LOF (3)	Double	Arg/Kry		1	None	26	0.45	0.45	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Arg/Kry	Y	None	None	24	0.41	0.4	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon		1	None	26	0.45	0.45	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon	Y	None	None	24	0.41	0.4	57	1.76	0.31	3.23
Grey-LOF (3)	Double			None	None	22	0.43	0.41	54	1.93	0.34	2.94
Grey-LOF (3)	Double		Y	None	None	19	0.39	0.36	54	1.93	0.34	2.94
Grey-LOF (3)	Double	Arg/Kry		1	None	25	0.43	0.41	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	23	0.39	0.36	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon		1	None	25	0.43	0.41	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon	Y	None	NC	23	0.39	0.36	57	1.76	0.31	3.23
LOF (3)	Double			1 2	None	32	0.61	0.6	54	1.93	0.34	2.94
LOF (3)	Double		Y	1	None	28	0.54	0.54	54	1.93	0.34	2.94
LOF (3)	Double	Arg/Kry		1 2 3	None	36	0.61	0.6	57	1.76	0.31	3.23
LOF (3)	Double	Arg/Kry	Y	1 2	None	32	0.55	0.54	57	1.76	0.31	3.23
LOF (3)	Double	Argon		1 2 3	None	36	0.61	0.6	57	1.76	0.31	3.23
LOF (3)	Double	Argon	Y	1 2	None	32	0.55	0.54	57	1.76	0.31	3.23
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	36	0.51	0.56	46	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N	33	0.46	0.5	46	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon		1 2 3	N	36	0.51	0.56	45	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon	Y	1 2	N	33	0.46	0.5	45	1.48	0.26	3.85
366 (2)	Triple	Arg/Kry		1	N,NC,SC,S	17	0.20	0.47	62	1.54	0.27	3.70
366 (2)	Triple	Argon		1	N,NC,SC,S	16	0.21	0.47	61	1.59	0.28	3.57
366 (2)	Triple	Krypton		1 2	NC,SC,S	23	0.20	0.47	66	1.25	0.22	4.55
Bronze	Triple	Arg/Kry		None	None	23	0.46	0.45	55	1.93	0.34	2.94
Bronze	Triple	Argon		None	None	23	0.46	0.45	55	1.93	0.34	2.94
Bronze	Triple	Krypton		1	N	26	0.45	0.45	58	1.76	0.31	3.23
Bronze-LOF (5)	Triple	Arg/Kry		1	N	27	0.42	0.41	60	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Argon		1	N	27	0.42	0.41	60	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Krypton		1 2	None	32	0.42	0.41	63	1.42	0.25	4.00
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	30	0.39	0.38	63	1.42	0.25	4.00
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2	N,NC	29	0.39	0.38	63	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	35	0.39	0.38	67	1.19	0.21	4.76
Grey	Triple	Arg/Kry		None	None	22	0.44	0.41	55	1.93	0.34	2.94
Grey	Triple	Argon		None	None	22	0.44	0.41	55	1.93	0.34	2.94
Grey	Triple	Krypton		1	None	25	0.43	0.41	58	1.76	0.31	3.23



1374 – 3-Lite (End Vent) Single Slider Liftout Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Grey-LOF (5)	Triple	Arg/Kry		1	N,NC	26	0.40	0.38	60	1.65	0.29	3.45
Grey-LOF (5)	Triple	Argon		1	N,NC	26	0.40	0.38	60	1.65	0.29	3.45
Grey-LOF (5)	Triple	Krypton		1 2	N,NC	31	0.40	0.38	63	1.42	0.25	4.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	29	0.37	0.35	63	1.42	0.25	4.00
Grey-LOF-LOF (3&5)	Triple	Argon		1	N,NC	28	0.37	0.35	63	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	34	0.37	0.35	67	1.19	0.21	4.76
LOF (5)	Triple	Arg/Kry		1 2 3	N	35	0.56	0.56	60	1.65	0.29	3.45
LOF (5)	Triple	Argon		1 2 3	N	35	0.56	0.56	60	1.65	0.29	3.45
LOF (5)	Triple	Krypton		1 2 3	N	40	0.55	0.56	63	1.42	0.25	4.00
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	38	0.52	0.52	63	1.42	0.25	4.00
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	37	0.52	0.52	63	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	43	0.52	0.52	67	1.19	0.21	4.76

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



1377 – Picture Window (Singles Frame) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	16	0.23	0.54	58	1.71	0.30	3.33
366 (2)	Double		Y	None	NC,SC,S	15	0.21	0.48	58	1.71	0.30	3.33
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	21	0.23	0.54	63	1.48	0.26	3.85
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	20	0.21	0.48	63	1.48	0.26	3.85
366 (2)	Double	Argon		1	N,NC,SC,S	21	0.23	0.54	62	1.48	0.26	3.85
366 (2)	Double	Argon	Y	1	N,NC,SC,S	20	0.21	0.48	62	1.48	0.26	3.85
Bronze/LOF (3)	Double			1	None	25	0.48	0.47	55	1.93	0.34	2.94
Bronze/LOF (3)	Double		Y	None	None	23	0.43	0.42	55	1.93	0.34	2.94
Bronze-LOF (3)	Double	Arg/Kry		1 2	None	29	0.48	0.47	59	1.70	0.30	3.33
Bronze-LOF (3)	Double	Arg/Kry	Y	1	None	26	0.43	0.42	59	1.70	0.30	3.33
Bronze-LOF (3)	Double	Argon		1 2	None	29	0.48	0.47	59	1.70	0.30	3.33
Bronze-LOF (3)	Double	Argon	Y	1	None	26	0.43	0.42	59	1.70	0.30	3.33
Grey-LOF (3)	Double			None	None	24	0.46	0.43	55	1.93	0.34	2.94
Grey-LOF (3)	Double		Y	None	None	21	0.41	0.38	55	1.93	0.34	2.94
Grey-LOF (3)	Double	Arg/Kry		1	None	28	0.45	0.43	59	1.70	0.30	3.33
Grey-LOF (3)	Double	Arg/Kry	Y	1	None	25	0.41	0.38	59	1.70	0.30	3.33
Grey-LOF (3)	Double	Argon		1	None	28	0.46	0.43	59	1.70	0.30	3.33
Grey-LOF (3)	Double	Argon	Y	1	None	25	0.41	0.38	59	1.70	0.30	3.33
LOF (3)	Double			1 2 3	None	34	0.64	0.64	55	1.93	0.34	2.94
LOF (3)	Double		Y	1 2	None	30	0.58	0.57	55	1.93	0.34	2.94
LOF (3)	Double	Arg/Kry		1 2 3	None	38	0.64	0.64	59	1.70	0.30	3.33
LOF (3)	Double	Arg/Kry	Y	1 2 3	None	34	0.58	0.57	59	1.70	0.30	3.33
LOF (3)	Double	Argon		1 2 3	None	38	0.64	0.64	59	1.70	0.30	3.33
LOF (3)	Double	Argon	Y	1 2 3	None	34	0.58	0.59	59	1.70	0.30	3.33
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	40	0.55	0.59	61	1.59	0.28	3.57
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2 3	N	37	0.50	0.53	61	1.59	0.28	3.57
LOF-LOF (2&3)	Double	Argon		1 2 3	N	40	0.55	0.59	61	1.59	0.28	3.57
LOF-LOF (2&3)	Double	Argon	Y	1 2 3	N	37	0.50	0.53	61	1.59	0.28	3.57
366 (2)	Triple	Arg/Kry		1	N,NC,SC,S	20	0.22	0.50	64	1.48	0.26	3.85
366 (2)	Triple	Argon		1	N,NC,SC,S	19	0.22	0.50	64	1.54	0.27	3.70
366 (2)	Triple	Krypton		1 2	N,NC,SC,S	25	0.21	0.50	69	1.19	0.21	4.77
Bronze	Triple	Arg/Kry		1	None	25	0.48	0.47	57	1.87	0.33	3.03
Bronze	Triple	Argon		1	None	25	0.48	0.47	57	1.93	0.34	2.94
Bronze	Triple	Krypton		1 2	None	29	0.48	0.47	61	1.70	0.30	3.33
Bronze-LOF (5)	Triple	Arg/Kry		1 2	N	31	0.45	0.44	62	1.59	0.28	3.57
Bronze-LOF (5)	Triple	Argon		1 2	N	29	0.45	0.44	62	1.65	0.28	3.57
Bronze-LOF (5)	Triple	Krypton		1 2 3	N	36	0.44	0.44	67	1.36	0.24	4.17
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N	33	0.41	0.41	66	1.36	0.24	4.17
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2	N	33	0.41	0.41	66	1.42	0.25	4.00
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	39	0.41	0.41	71	1.14	0.20	5.00
Grey	Triple	Arg/Kry		None	None	24	0.46	0.43	57	1.87	0.33	3.03
Grey	Triple	Argon		None	None	24	0.46	0.43	57	1.93	0.34	2.94
Grey	Triple	Krypton		1	None	27	0.46	0.43	61	1.70	0.30	3.33

1377 – Picture Window (Singles Frame) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Grey-LOF (5)	Triple	Arg/Kry		1 2	N	29	0.42	0.40	63	1.59	0.28	3.57
Grey-LOF (5)	Triple	Argon		1	N	28	0.42	0.40	62	1.59	0.28	3.57
Grey-LOF (5)	Triple	Krypton		1 2 3	N	34	0.42	0.40	67	1.36	0.24	4.17
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	31	0.39	0.37	66	1.36	0.24	4.17
Grey-LOF-LOF (3&5)	Triple	Argon		1 2	N,NC	31	0.39	0.37	66	1.42	0.25	4.00
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	38	0.39	0.37	71	1.14	0.20	5.00
LOF (5)	Triple	Arg/Kry		1 2 3	N	38	0.55	0.59	61	1.59	0.28	3.57
LOF (5)	Triple	Argon		1 2 3	N	37	0.60	0.59	62	1.59	0.28	3.57
LOF (5)	Triple	Krypton		1 2 3	N	43	0.60	0.59	67	1.36	0.24	4.17
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	40	0.55	0.55	66	1.36	0.24	4.17
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	40	0.55	0.55	66	1.42	0.25	4.00
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	46	0.55	0.55	71	1.14	0.20	5.00

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.

3320 – Patio Door Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	N,NC,SC,S	12	0.21	0.5	57	1.82	0.32	3.13
366 (2)	Double		Y	None	N,NC,SC,S	11	0.19	0.43	57	1.82	0.32	3.13
366 (2)	Double	Arg/Kry		None	N,NC,SC,S	15	0.21	0.5	60	1.65	0.29	3.45
366 (2)	Double	Arg/Kry	Y	None	N,NC,SC,S	14	0.19	0.43	60	1.65	0.29	3.45
366 (2)	Double	Argon		None	N,NC,SC,S	15	0.21	0.5	60	1.65	0.29	3.45
366 (2)	Double	Argon	Y	None	N,NC,SC,S	14	0.19	0.43	60	1.65	0.29	3.45
Bronze/LOF (3)	Double			None	None	22	0.45	0.44	51	1.99	0.35	2.86
Bronze/LOF (3)	Double		Y	None	None	18	0.39	0.39	51	1.99	0.35	2.86
Bronze-LOF (3)	Double	Arg/Kry		1	None	26	0.45	0.44	58	1.82	0.32	3.13
Bronze-LOF (3)	Double	Arg/Kry	Y	None	None	22	0.39	0.39	58	1.82	0.32	3.13
Bronze-LOF (3)	Double	Argon		1	None	26	0.45	0.44	58	1.82	0.32	3.13
Bronze-LOF (3)	Double	Argon	Y	None	None	22	0.39	0.39	58	1.82	0.32	3.13
Grey-LOF (3)	Double			None	None	21	0.43	0.4	51	1.99	0.35	2.86
Grey-LOF (3)	Double		Y	None	None	18	0.38	0.35	51	1.99	0.35	2.86
Grey-LOF (3)	Double	Arg/Kry		None	None	24	0.42	0.4	58	1.82	0.32	3.13
Grey-LOF (3)	Double	Arg/Kry	Y	None	None	21	0.37	0.35	58	1.82	0.32	3.13
Grey-LOF (3)	Double	Argon		None	None	24	0.42	0.4	58	1.82	0.32	3.13
Grey-LOF (3)	Double	Argon	Y	None	None	21	0.37	0.35	58	1.82	0.32	3.13
LOF (3)	Double			1 2	None	29	0.57	0.59	51	1.99	0.35	2.86
LOF (3)	Double		Y	1	None	25	0.50	0.51	51	1.99	0.35	2.86
LOF (3)	Double	Arg/Kry		1 2	None	32	0.57	0.59	58	1.82	0.32	3.13
LOF (3)	Double	Arg/Kry	Y	1	None	28	0.50	0.51	58	1.82	0.32	3.13
LOF (3)	Double	Argon		1 2	None	32	0.57	0.59	58	1.82	0.32	3.13
LOF (3)	Double	Argon	Y	1	None	28	0.50	0.51	58	1.82	0.32	3.13
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	None	35	0.51	0.55	46	1.54	0.27	3.70
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	None	32	0.45	0.48	46	1.54	0.27	3.70
LOF-LOF (2&3)	Double	Argon		1 2 3	None	35	0.51	0.55	46	1.54	0.27	3.70
LOF-LOF (2&3)	Double	Argon	Y	1 2	None	32	0.45	0.48	46	1.54	0.27	3.70
366 (2)	Triple	Arg/Kry		1	N,NC,SC,S	16	0.20	0.45	61	1.59	0.28	3.57
366 (2)	Triple	Argon		None	N,NC,SC,S	15	0.20	0.45	61	1.65	0.29	3.45
366 (2)	Triple	Krypton		1 2	N,NC,SC,S	21	0.20	0.45	61	1.36	0.24	4.17
Bronze	Triple	Arg/Kry		None	None	21	0.43	0.43	55	1.99	0.35	2.86
Bronze	Triple	Argon		None	None	21	0.44	0.43	55	1.99	0.35	2.86
Bronze	Triple	Krypton		None	None	24	0.43	0.43	58	1.82	0.32	3.13
Bronze-LOF (5)	Triple	Arg/Kry		1	None	25	0.40	0.4	60	1.71	0.30	3.33
Bronze-LOF (5)	Triple	Argon		1	None	25	0.40	0.4	59	1.71	0.30	3.33
Bronze-LOF (5)	Triple	Krypton		1 2	None	30	0.40	0.4	60	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	None	29	0.38	0.38	60	1.48	0.26	3.85
Bronze-LOF-LOF (3&5)	Triple	Argon		1	None	28	0.38	0.38	60	1.54	0.27	3.70
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	None	34	0.38	0.38	61	1.25	0.22	4.55
Grey	Triple	Arg/Kry		None	None	20	0.42	0.39	55	1.99	0.35	2.86
Grey	Triple	Argon		None	None	20	0.42	0.39	55	1.99	0.35	2.86
Grey	Triple	Krypton		None	None	23	0.41	0.39	58	1.82	0.32	3.13

3320 – Patio Door Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Grey-LOF (5)	Triple	Arg/Kry		None	None	24	0.38	0.37	60	1.71	0.30	3.33
Grey-LOF (5)	Triple	Argon		None	None	24	0.38	0.37	59	1.71	0.30	3.33
Grey-LOF (5)	Triple	Krypton		1 2	None	29	0.38	0.37	60	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1	None	28	0.36	0.34	60	1.48	0.26	3.85
Grey-LOF-LOF (3&5)	Triple	Argon		1	None	27	0.36	0.34	60	1.54	0.27	3.70
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2	None	33	0.36	0.34	61	1.25	0.22	4.55
LOF (5)	Triple	Arg/Kry		1 2	None	32	0.51	0.54	60	1.71	0.30	3.33
LOF (5)	Triple	Argon		1 2	None	32	0.51	0.54	59	1.71	0.30	3.33
LOF (5)	Triple	Krypton		1 2 3	None	36	0.51	0.54	60	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	None	35	0.49	0.51	60	1.48	0.26	3.85
LOF-LOF (3&5)	Triple	Argon		1 2 3	None	34	0.48	0.51	60	1.54	0.27	3.70
LOF-LOF (3&5)	Triple	Krypton		1 2 3	None	40	0.49	0.51	61	1.25	0.22	4.55

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



4071/5071(H) – Picture Window (No Sash) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	16	0.23	0.53	59	1.71	0.30	3.33
366 (2)	Double		Y	None	NC,SC,S	15	0.21	0.47	59	1.71	0.30	3.33
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	20	0.22	0.53	63	1.48	0.26	3.85
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	19	0.20	0.47	63	1.48	0.26	3.85
366 (2)	Double	Argon		1	N,NC,SC,S	20	0.22	0.53	63	1.48	0.26	3.85
366 (2)	Double	Argon	Y	1	N,NC,SC,S	19	0.20	0.47	63	1.48	0.26	3.85
Bronze/LOF (3)	Double			1	None	25	0.48	0.47	56	1.93	0.34	2.94
Bronze/LOF (3)	Double		Y	None	None	23	0.43	0.42	56	1.93	0.34	2.94
Bronze-LOF (3)	Double	Arg/Kry		1 2	None	29	0.48	0.47	60	1.76	0.31	3.23
Bronze-LOF (3)	Double	Arg/Kry	Y	1	None	26	0.43	0.42	60	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon		1 2	None	29	0.48	0.47	60	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon	Y	1	None	26	0.43	0.42	60	1.76	0.31	3.23
Grey-LOF (3)	Double			None	None	24	0.45	0.43	56	1.93	0.34	2.94
Grey-LOF (3)	Double		Y	None	None	21	0.41	0.38	56	1.93	0.34	2.94
Grey-LOF (3)	Double	Arg/Kry		1	None	27	0.45	0.43	60	1.76	0.31	3.23
Grey-LOF (3)	Double	Arg/Kry	Y	1	None	25	0.41	0.38	60	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon		1	None	27	0.45	0.43	60	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon	Y	1	None	25	0.41	0.38	60	1.76	0.31	3.23
LOF (3)	Double			1 2	None	32	0.60	0.63	56	1.93	0.34	2.94
LOF (3)	Double		Y	1 2	None	29	0.54	0.56	56	1.93	0.34	2.94
LOF (3)	Double	Arg/Kry		1 2 3	None	36	0.60	0.63	60	1.76	0.31	3.23
LOF (3)	Double	Arg/Kry	Y	1 2	None	33	0.54	0.56	60	1.76	0.31	3.23
LOF (3)	Double	Argon		1 2 3	None	36	0.60	0.63	60	1.76	0.31	3.23
LOF (3)	Double	Argon	Y	1 2	None	33	0.54	0.56	60	1.76	0.31	3.23
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	40	0.54	0.59	47	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2 3	N	37	0.49	0.53	47	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon		1 2 3	N	40	0.54	0.59	47	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon	Y	1 2 3	N	37	0.49	0.53	47	1.42	0.25	4.00
366 (2)	Triple	Arg/Kry		1 2 3	N,NC,SC,S	27	0.21	0.48	72	1.14	0.20	5.00
366 (2)	Triple	Arg/Kry	Y	1 2 3	N,NC,SC,S	26	0.19	0.43	72	1.14	0.20	5.00
366 (2)	Triple	Argon		1 2 3	N,NC,SC,S	27	0.21	0.48	72	1.14	0.20	5.00
366 (2)	Triple	Argon	Y	1 2 3	N,NC,SC,S	26	0.19	0.43	72	1.14	0.20	5.00
366 (2)	Triple	Krypton		1 2 3	N,NC,SC,S	28	0.21	0.48	74	1.08	0.19	5.26
366 (2)	Triple	Krypton	Y	1 2 3	N,NC,SC,S	27	0.19	0.43	74	1.08	0.19	5.26
Bronze	Triple	Arg/Kry		1 2	N	30	0.46	0.46	64	1.65	0.29	3.45
Bronze	Triple	Arg/Kry	Y	1	N	28	0.41	0.41	64	1.65	0.29	3.45
Bronze	Triple	Argon		1 2	N	30	0.46	0.46	64	1.65	0.29	3.45
Bronze	Triple	Argon	Y	1	N	28	0.41	0.41	64	1.65	0.29	3.45
Bronze	Triple	Krypton		1 2	N	32	0.46	0.46	65	1.59	0.28	3.57
Bronze	Triple	Krypton	Y	1 2	N	29	0.41	0.41	65	1.59	0.28	3.57
Bronze-LOF (5)	Triple	Arg/Kry		1 2 3	N	37	0.42	0.43	70	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2 3	N,NC	35	0.38	0.39	70	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Argon		1 2 3	N	37	0.42	0.43	70	1.25	0.22	4.55

4071/5071(H) – Picture Window (No Sash) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF (5)	Triple	Argon	Y	1 2 3	N,NC	35	0.38	0.39	70	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Krypton		1 2 3	N	38	0.42	0.43	72	1.19	0.21	4.76
Bronze-LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	36	0.38	0.39	72	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	41	0.41	0.41	76	1.02	0.18	5.56
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	39	0.37	0.36	76	1.02	0.18	5.56
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2 3	N	41	0.41	0.41	76	1.02	0.18	5.56
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	39	0.37	0.36	76	1.02	0.18	5.56
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	41	0.41	0.41	76	1.02	0.18	5.56
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	39	0.37	0.36	76	1.02	0.18	5.56
Grey	Triple	Arg/Kry		1 2	N	29	0.44	0.42	64	1.65	0.29	3.45
Grey	Triple	Arg/Kry	Y	1	N,NC	26	0.39	0.37	64	1.65	0.29	3.45
Grey	Triple	Argon		1 2	N	29	0.44	0.42	64	1.65	0.29	3.45
Grey	Triple	Argon	Y	1	N,NC	26	0.39	0.37	64	1.65	0.29	3.45
Grey	Triple	Krypton		1 2	N	31	0.44	0.42	65	1.59	0.28	3.57
Grey	Triple	Krypton	Y	1	N,NC	28	0.39	0.37	65	1.59	0.28	3.57
Grey-LOF (5)	Triple	Arg/Kry		1 2 3	N,NC	36	0.40	0.39	70	1.25	0.22	4.55
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	33	0.36	0.35	70	1.25	0.22	4.55
Grey-LOF (5)	Triple	Argon		1 2 3	N,NC	36	0.40	0.39	70	1.25	0.22	4.55
Grey-LOF (5)	Triple	Argon	Y	1 2	N,NC	33	0.36	0.35	70	1.25	0.22	4.55
Grey-LOF (5)	Triple	Krypton		1 2 3	N,NC	37	0.40	0.39	72	1.19	0.21	4.76
Grey-LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	35	0.36	0.35	72	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	40	0.38	0.37	76	1.02	0.18	5.56
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	38	0.35	0.33	76	1.02	0.18	5.56
Grey-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	40	0.38	0.37	76	1.02	0.18	5.56
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	38	0.35	0.33	76	1.02	0.18	5.56
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	40	0.39	0.37	76	1.02	0.18	5.56
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	38	0.35	0.33	76	1.02	0.18	5.56
LOF (5)	Triple	Arg/Kry		1 2 3	N	43	0.53	0.57	70	1.25	0.22	4.55
LOF (5)	Triple	Arg/Kry	Y	1 2 3	N	40	0.48	0.51	70	1.25	0.22	4.55
LOF (5)	Triple	Argon		1 2 3	N	43	0.53	0.57	70	1.25	0.22	4.55
LOF (5)	Triple	Argon	Y	1 2 3	N	40	0.48	0.51	70	1.25	0.22	4.55
LOF (5)	Triple	Krypton		1 2 3	N	45	0.53	0.57	72	1.19	0.21	4.76
LOF (5)	Triple	Krypton	Y	1 2 3	N	42	0.48	0.51	72	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	47	0.51	0.54	76	1.02	0.18	5.56
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N	44	0.46	0.48	76	1.02	0.18	5.56
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	47	0.51	0.54	76	1.02	0.18	5.56
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N	44	0.46	0.48	76	1.02	0.18	5.56
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	48	0.52	0.54	76	1.02	0.18	5.56
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N	44	0.46	0.48	76	1.02	0.18	5.56

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



4072/5072(H) – Picture Window (With Sash) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	15	0.21	0.49	59	1.71	0.30	3.33
366 (2)	Double		Y	None	NC,SC,S	14	0.19	0.44	59	1.71	0.30	3.33
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	20	0.21	0.49	63	1.48	0.26	3.85
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	19	0.19	0.44	63	1.48	0.26	3.85
366 (2)	Double	Argon		1	N,NC,SC,S	20	0.21	0.49	63	1.48	0.26	3.85
366 (2)	Double	Argon	Y	1	N,NC,SC,S	19	0.19	0.44	63	1.48	0.26	3.85
Bronze/LOF (3)	Double			None	None	24	0.44	0.44	56	1.88	0.33	3.03
Bronze/LOF (3)	Double		Y	None	None	22	0.40	0.39	56	1.88	0.33	3.03
Bronze-LOF (3)	Double	Arg/Kry		1	N	28	0.44	0.44	60	1.71	0.30	3.33
Bronze-LOF (3)	Double	Arg/Kry	Y	1	NC	26	0.40	0.39	60	1.71	0.30	3.33
Bronze-LOF (3)	Double	Argon		1	N	28	0.44	0.44	60	1.71	0.30	3.33
Bronze-LOF (3)	Double	Argon	Y	1	NC	26	0.40	0.39	60	1.71	0.30	3.33
Grey-LOF (3)	Double			None	None	23	0.42	0.4	56	1.88	0.33	3.03
Grey-LOF (3)	Double		Y	None	None	21	0.38	0.36	56	1.88	0.33	3.03
Grey-LOF (3)	Double	Arg/Kry		1	N	27	0.42	0.4	60	1.71	0.30	3.33
Grey-LOF (3)	Double	Arg/Kry	Y	1	N,NC	25	0.38	0.36	60	1.71	0.30	3.33
Grey-LOF (3)	Double	Argon		1	N	27	0.42	0.4	60	1.71	0.30	3.33
Grey-LOF (3)	Double	Argon	Y	1	N,NC	25	0.38	0.36	60	1.71	0.30	3.33
LOF (3)	Double			1 2	None	31	0.55	0.58	56	1.88	0.33	3.03
LOF (3)	Double		Y	1	None	28	0.50	0.52	56	1.88	0.33	3.03
LOF (3)	Double	Arg/Kry		1 2 3	N	35	0.56	0.58	60	1.71	0.30	3.33
LOF (3)	Double	Arg/Kry	Y	1 2	N	32	0.50	0.52	60	1.71	0.30	3.33
LOF (3)	Double	Argon		1 2 3	N	35	0.56	0.58	60	1.71	0.30	3.33
LOF (3)	Double	Argon	Y	1 2	N	32	0.50	0.52	60	1.71	0.30	3.33
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	38	0.50	0.55	47	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2 3	N	35	0.45	0.49	47	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon		1 2 3	N	38	0.50	0.55	47	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon	Y	1 2 3	N	35	0.45	0.49	47	1.42	0.25	4.00
366 (2)	Triple	Arg/Kry		1 2 3	N,NC,SC,S	25	0.19	0.45	72	1.19	0.21	4.76
366 (2)	Triple	Arg/Kry	Y	1 2 3	N,NC,SC,S	24	0.17	0.4	72	1.19	0.21	4.76
366 (2)	Triple	Argon		1 2 3	N,NC,SC,S	25	0.19	0.45	72	1.19	0.21	4.76
366 (2)	Triple	Argon	Y	1 2 3	N,NC,SC,S	24	0.18	0.4	72	1.19	0.21	4.76
366 (2)	Triple	Krypton		1 2 3	N,NC,SC,S	26	0.19	0.45	74	1.14	0.20	5.00
366 (2)	Triple	Krypton	Y	1 2 3	N,NC,SC,S	25	0.17	0.4	74	1.14	0.20	5.00
Bronze	Triple	Arg/Kry		1 2	N	30	0.43	0.43	64	1.59	0.28	3.57
Bronze	Triple	Arg/Kry	Y	1	N,NC	27	0.38	0.38	64	1.59	0.28	3.57
Bronze	Triple	Argon		1 2	N	29	0.43	0.43	63	1.65	0.29	3.45
Bronze	Triple	Argon	Y	1	N,NC	26	0.38	0.38	63	1.65	0.29	3.45
Bronze	Triple	Krypton		1 2	N	29	0.42	0.43	65	1.59	0.28	3.57
Bronze	Triple	Krypton	Y	1	N,NC	27	0.38	0.38	65	1.59	0.28	3.57
Bronze-LOF (5)	Triple	Arg/Kry		1 2 3	N,NC	35	0.39	0.4	70	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	33	0.35	0.36	70	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Argon		1 2 3	N,NC	35	0.39	0.4	70	1.25	0.22	4.55



4072/5072(H) – Picture Window (With Sash) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF (5)	Triple	Argon	Y	1 2	N,NC	33	0.35	0.36	70	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Krypton		1 2 3	N,NC	35	0.39	0.4	72	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Krypton	Y	1 2	N,NC	33	0.35	0.36	72	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	38	0.38	0.38	75	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	36	0.34	0.34	75	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	38	0.38	0.38	75	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	36	0.34	0.34	75	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	40	0.38	0.38	75	1.02	0.18	5.56
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	37	0.34	0.34	75	1.02	0.18	5.56
Grey	Triple	Arg/Kry		1 2	N	29	0.41	0.39	64	1.59	0.28	3.57
Grey	Triple	Arg/Kry	Y	1	N,NC	26	0.36	0.34	64	1.59	0.28	3.57
Grey	Triple	Argon		1	N	28	0.41	0.39	63	1.65	0.29	3.45
Grey	Triple	Argon	Y	1	NC	25	0.36	0.34	63	1.65	0.29	3.45
Grey	Triple	Krypton		1	N,NC	28	0.40	0.39	65	1.59	0.28	3.57
Grey	Triple	Krypton	Y	1	N,NC	26	0.36	0.34	65	1.59	0.28	3.57
Grey-LOF (5)	Triple	Arg/Kry		1 2 3	N,NC	34	0.37	0.36	70	1.25	0.22	4.55
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	32	0.33	0.32	70	1.25	0.22	4.55
Grey-LOF (5)	Triple	Argon		1 2 3	N,NC	34	0.37	0.36	70	1.25	0.22	4.55
Grey-LOF (5)	Triple	Argon	Y	1 2	N,NC	32	0.33	0.32	70	1.25	0.22	4.55
Grey-LOF (5)	Triple	Krypton		1 2 3	N,NC	34	0.37	0.36	72	1.25	0.22	4.55
Grey-LOF (5)	Triple	Krypton	Y	1 2	N,NC	32	0.33	0.32	72	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	37	0.36	0.34	75	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	35	0.32	0.3	75	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	37	0.36	0.34	75	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	35	0.32	0.3	75	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	38	0.36	0.34	75	1.02	0.18	5.56
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	36	0.32	0.3	75	1.02	0.18	5.56
LOF (5)	Triple	Arg/Kry		1 2 3	N	41	0.49	0.53	70	1.25	0.22	4.55
LOF (5)	Triple	Arg/Kry	Y	1 2 3	N	38	0.44	0.47	70	1.25	0.22	4.55
LOF (5)	Triple	Argon		1 2 3	N	41	0.49	0.53	70	1.25	0.22	4.55
LOF (5)	Triple	Argon	Y	1 2 3	N	38	0.44	0.47	70	1.25	0.22	4.55
LOF (5)	Triple	Krypton		1 2 3	N	41	0.49	0.53	72	1.25	0.22	4.55
LOF (5)	Triple	Krypton	Y	1 2 3	N	38	0.44	0.47	72	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	44	0.48	0.5	75	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N	41	0.43	0.44	75	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	44	0.48	0.5	75	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N	41	0.43	0.44	75	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	45	0.48	0.5	75	1.02	0.18	5.56
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N	42	0.43	0.44	75	1.02	0.18	5.56

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



4171/5171(H) – Casement Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	14	0.18	0.41	60	1.65	0.29	3.45
366 (2)	Double		Y	None	NC,SC,S	13	0.16	0.37	60	1.65	0.29	3.45
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	18	0.18	0.41	64	1.48	0.26	3.85
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	17	0.16	0.37	64	1.48	0.26	3.85
366 (2)	Double	Argon		1	N,NC,SC,S	18	0.18	0.41	63	1.48	0.26	3.85
366 (2)	Double	Argon	Y	1	N,NC,SC,S	17	0.16	0.37	63	1.48	0.26	3.85
Bronze/LOF (3)	Double			None	C	21	0.37	0.37	56	1.82	0.32	3.13
Bronze/LOF (3)	Double		Y	None	C	20	0.34	0.33	56	1.82	0.32	3.13
Bronze-LOF (3)	Double	Arg/Kry		1	N,NC	25	0.37	0.37	60	1.65	0.29	3.45
Bronze-LOF (3)	Double	Arg/Kry	Y	None	NC	23	0.34	0.33	60	1.65	0.29	3.45
Bronze-LOF (3)	Double	Argon		1	N,NC	25	0.37	0.37	60	1.65	0.29	3.45
Bronze-LOF (3)	Double	Argon	Y	None	NC	23	0.34	0.33	60	1.65	0.29	3.45
Grey-LOF (3)	Double			None	C	20	0.35	0.33	56	1.82	0.32	3.13
Grey-LOF (3)	Double		Y	None	C	18	0.32	0.3	56	1.82	0.32	3.13
Grey-LOF (3)	Double	Arg/Kry		None	N,NC	24	0.35	0.33	60	1.65	0.29	3.45
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	22	0.32	0.3	60	1.65	0.29	3.45
Grey-LOF (3)	Double	Argon		None	NC	24	0.35	0.33	60	1.65	0.29	3.45
Grey-LOF (3)	Double	Argon	Y	None	NC	22	0.32	0.3	60	1.65	0.29	3.45
LOF (3)	Double			1	None	27	0.46	0.49	56	1.82	0.32	3.13
LOF (3)	Double		Y	None	None	24	0.42	0.44	56	1.82	0.32	3.13
LOF (3)	Double	Arg/Kry		1 2	N	31	0.47	0.49	60	1.65	0.29	3.45
LOF (3)	Double	Arg/Kry	Y	1	None	28	0.42	0.44	60	1.65	0.29	3.45
LOF (3)	Double	Argon		1 2	N	31	0.47	0.49	60	1.65	0.29	3.45
LOF (3)	Double	Argon	Y	1	N	28	0.42	0.44	60	1.65	0.29	3.45
LOF-LOF (2&3)	Double	Arg/Kry		1 2	N	33	0.42	0.46	47	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N,NC	31	0.38	0.41	47	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon		1 2	N	33	0.42	0.46	47	1.42	0.25	4.00
LOF-LOF (2&3)	Double	Argon	Y	1 2	N,NC	31	0.38	0.41	47	1.42	0.25	4.00
366 (2)	Triple	Arg/Kry		1 2	N,NC,SC,S	23	0.16	0.37	72	1.19	0.21	4.76
366 (2)	Triple	Arg/Kry	Y	1 2	N,NC,SC,S	22	0.15	0.34	72	1.19	0.21	4.76
366 (2)	Triple	Argon		1 2	N,NC,SC,S	23	0.16	0.37	72	1.19	0.21	4.76
366 (2)	Triple	Argon	Y	1 2	N,NC,SC,S	22	0.15	0.34	72	1.19	0.21	4.76
366 (2)	Triple	Krypton		1 2 3	N,NC,SC,S	24	0.16	0.37	73	1.14	0.20	5.00
366 (2)	Triple	Krypton	Y	1 2 3	N,NC,SC,S	24	0.15	0.34	73	1.14	0.20	5.00
Bronze	Triple	Arg/Kry		1	N,NC	26	0.36	0.36	64	1.59	0.28	3.57
Bronze	Triple	Arg/Kry	Y	1	N,NC	23	0.32	0.32	64	1.59	0.28	3.57
Bronze	Triple	Argon		1	N,NC	26	0.36	0.36	64	1.59	0.28	3.57
Bronze	Triple	Argon	Y	1	N,NC	23	0.32	0.32	64	1.59	0.28	3.57
Bronze	Triple	Krypton		1	N,NC	27	0.36	0.36	64	1.54	0.27	3.70
Bronze	Triple	Krypton	Y	1	N,NC	25	0.32	0.32	64	1.54	0.27	3.70
Bronze-LOF (5)	Triple	Arg/Kry		1 2	N,NC	31	0.33	0.33	71	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC,SC	30	0.30	0.3	71	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Argon		1 2	N,NC	30	0.33	0.33	70	1.31	0.23	4.35

4171/5171(H) – Casement Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF (5)	Triple	Argon	Y	1 2	N,NC,SC	28	0.30	0.3	70	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Krypton		1 2	N,NC	31	0.33	0.33	72	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Krypton	Y	1 2	N,NC,SC	30	0.30	0.3	72	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	35	0.32	0.31	76	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC,SC	33	0.29	0.28	76	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	33	0.32	0.31	76	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC,SC	32	0.29	0.28	76	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	35	0.32	0.31	78	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC,SC	33	0.29	0.28	78	1.08	0.19	5.26
Grey	Triple	Arg/Kry		1	N,NC	25	0.34	0.32	64	1.59	0.28	3.57
Grey	Triple	Arg/Kry	Y	1	NC	23	0.31	0.29	64	1.59	0.28	3.57
Grey	Triple	Argon		1	N,NC	25	0.34	0.32	64	1.59	0.28	3.57
Grey	Triple	Argon	Y	1	NC	23	0.31	0.29	64	1.59	0.28	3.57
Grey	Triple	Krypton		1	N,NC	26	0.34	0.32	64	1.54	0.27	3.70
Grey	Triple	Krypton	Y	1	N,NC	24	0.31	0.29	64	1.54	0.27	3.70
Grey-LOF (5)	Triple	Arg/Kry		1 2	N,NC	30	0.31	0.3	71	1.25	0.22	4.55
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC,SC	29	0.28	0.27	71	1.25	0.22	4.55
Grey-LOF (5)	Triple	Argon		1 2	N,NC	29	0.31	0.3	70	1.31	0.23	4.35
Grey-LOF (5)	Triple	Argon	Y	1 2	N,NC,SC	27	0.28	0.27	70	1.31	0.23	4.35
Grey-LOF (5)	Triple	Krypton		1 2	N,NC	30	0.31	0.3	72	1.25	0.22	4.55
Grey-LOF (5)	Triple	Krypton	Y	1 2	N,NC,SC	29	0.28	0.27	72	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC,SC	33	0.30	0.29	76	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC,SC,S	32	0.27	0.26	76	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC,SC	32	0.30	0.29	76	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC,SC,S	30	0.27	0.26	76	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC,SC	33	0.30	0.29	78	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC,SC,S	32	0.27	0.26	78	1.08	0.19	5.26
LOF (5)	Triple	Arg/Kry		1 2 3	N	36	0.41	0.44	71	1.25	0.22	4.55
LOF (5)	Triple	Arg/Kry	Y	1 2 3	N,NC	34	0.37	0.4	71	1.25	0.22	4.55
LOF (5)	Triple	Argon		1 2 3	N	35	0.41	0.44	70	1.31	0.23	4.35
LOF (5)	Triple	Argon	Y	1 2	N,NC	32	0.37	0.4	70	1.31	0.23	4.35
LOF (5)	Triple	Krypton		1 2 3	N	36	0.41	0.44	72	1.25	0.22	4.55
LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	34	0.37	0.4	72	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	39	0.40	0.42	76	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	37	0.36	0.38	76	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	38	0.40	0.42	76	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	36	0.36	0.38	76	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	39	0.40	0.42	78	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	37	0.36	0.38	78	1.08	0.19	5.26

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



4173/5173(H) – Awning Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	13	0.18	0.41	55	1.71	0.30	3.33
366 (2)	Double		Y	None	NC,SC,S	12	0.16	0.37	55	1.71	0.30	3.33
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	18	0.18	0.41	59	1.48	0.26	3.85
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	17	0.16	0.37	59	1.48	0.26	3.85
366 (2)	Double	Argon		1	N,NC,SC,S	17	0.18	0.41	59	1.54	0.27	3.70
366 (2)	Double	Argon	Y	1	N,NC,SC,S	16	0.16	0.37	59	1.54	0.27	3.70
Bronze/LOF (3)	Double			None	C	21	0.37	0.37	56	1.82	0.32	3.13
Bronze/LOF (3)	Double		Y	None	C	20	0.34	0.33	56	1.82	0.32	3.13
Bronze-LOF (3)	Double	Arg/Kry		None	NC	24	0.37	0.37	56	1.71	0.30	3.33
Bronze-LOF (3)	Double	Arg/Kry	Y	None	NC	22	0.34	0.33	56	1.71	0.30	3.33
Bronze-LOF (3)	Double	Argon		None	NC	24	0.37	0.37	56	1.71	0.30	3.33
Bronze-LOF (3)	Double	Argon	Y	None	N,NC	22	0.34	0.33	56	1.71	0.30	3.33
Grey-LOF (3)	Double			None	C	20	0.35	0.33	56	1.82	0.32	3.13
Grey-LOF (3)	Double		Y	None	C	18	0.32	0.3	56	1.82	0.32	3.13
Grey-LOF (3)	Double	Arg/Kry		None	NC	23	0.35	0.33	56	1.71	0.30	3.33
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	21	0.32	0.3	56	1.71	0.30	3.33
Grey-LOF (3)	Double	Argon		None	NC	23	0.35	0.33	56	1.71	0.30	3.33
Grey-LOF (3)	Double	Argon	Y	None	N,NC	21	0.32	0.3	56	1.71	0.30	3.33
LOF (3)	Double			1	None	27	0.46	0.49	56	1.82	0.32	3.13
LOF (3)	Double		Y	None	None	24	0.42	0.44	56	1.82	0.32	3.13
LOF (3)	Double	Arg/Kry		1 2	N	30	0.47	0.49	56	1.71	0.30	3.33
LOF (3)	Double	Arg/Kry	Y	1	N	27	0.42	0.44	56	1.71	0.30	3.33
LOF (3)	Double	Argon		1 2	N	30	0.47	0.49	56	1.71	0.30	3.33
LOF (3)	Double	Argon	Y	1	N	27	0.42	0.44	56	1.71	0.30	3.33
LOF-LOF (2&3)	Double	Arg/Kry		1 2	N	32	0.42	0.46	44	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N,NC	29	0.38	0.41	44	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon		1 2	N	32	0.42	0.46	44	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon	Y	1 2	N,NC	29	0.38	0.41	44	1.48	0.26	3.85
366 (2)	Triple	Arg/Kry		1 2	N,NC,SC,S	23	0.16	0.37	72	1.19	0.21	4.76
366 (2)	Triple	Arg/Kry	Y	1 2	N,NC,SC,S	22	0.15	0.34	72	1.19	0.21	4.76
366 (2)	Triple	Argon		1 2	N,NC,SC,S	23	0.16	0.37	72	1.19	0.21	4.76
366 (2)	Triple	Argon	Y	1 2	N,NC,SC,S	22	0.15	0.34	72	1.19	0.21	4.76
366 (2)	Triple	Krypton		1 2	N,NC,SC,S	23	0.16	0.37	73	1.19	0.21	4.76
366 (2)	Triple	Krypton	Y	1 2	N,NC,SC,S	22	0.15	0.34	73	1.19	0.21	4.76
Bronze	Triple	Arg/Kry		1	N,NC	26	0.36	0.36	63	1.59	0.28	3.57
Bronze	Triple	Arg/Kry	Y	1	N,NC	23	0.32	0.32	63	1.59	0.28	3.57
Bronze	Triple	Argon		1	N,NC	26	0.36	0.36	63	1.59	0.28	3.57
Bronze	Triple	Argon	Y	1	N,NC	23	0.32	0.32	63	1.59	0.28	3.57
Bronze	Triple	Krypton		1	N,NC	26	0.36	0.36	64	1.59	0.28	3.57
Bronze	Triple	Krypton	Y	1	N,NC	23	0.32	0.32	64	1.59	0.28	3.57
Bronze-LOF (5)	Triple	Arg/Kry		1 2	N,NC	30	0.33	0.33	70	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC,SC	28	0.30	0.3	70	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Argon		1 2	N,NC	30	0.33	0.33	69	1.31	0.23	4.35



4173/5173(H) – Awning Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF (5)	Triple	Argon	Y	1 2	N,NC,SC	28	0.30	0.3	69	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Krypton		1 2	N,NC	31	0.33	0.33	70	1.25	0.22	4.55
Bronze-LOF (5)	Triple	Krypton	Y	1 2	N,NC,SC	30	0.30	0.3	70	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	33	0.32	0.31	75	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC,SC	32	0.29	0.28	75	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	33	0.32	0.31	75	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC,SC	32	0.29	0.28	75	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	35	0.32	0.31	77	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC,SC	33	0.29	0.28	77	1.08	0.19	5.26
Grey	Triple	Arg/Kry		1	N,NC	25	0.34	0.32	63	1.59	0.28	3.57
Grey	Triple	Arg/Kry	Y	1	NC	23	0.31	0.29	63	1.59	0.28	3.57
Grey	Triple	Argon		1	N,NC	25	0.34	0.32	63	1.59	0.28	3.57
Grey	Triple	Argon	Y	1	NC	23	0.31	0.29	63	1.59	0.28	3.57
Grey	Triple	Krypton		1	N,NC	25	0.34	0.32	64	1.59	0.28	3.57
Grey	Triple	Krypton	Y	1	NC	23	0.31	0.29	64	1.59	0.28	3.57
Grey-LOF (5)	Triple	Arg/Kry		1 2	N,NC	29	0.31	0.3	70	1.31	0.23	4.35
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC,SC	27	0.28	0.27	70	1.31	0.23	4.35
Grey-LOF (5)	Triple	Argon		1 2	N,NC	29	0.31	0.3	69	1.31	0.23	4.35
Grey-LOF (5)	Triple	Argon	Y	1 2	N,NC,SC	27	0.28	0.27	69	1.31	0.23	4.35
Grey-LOF (5)	Triple	Krypton		1 2	N,NC	30	0.31	0.3	70	1.25	0.22	4.55
Grey-LOF (5)	Triple	Krypton	Y	1 2	N,NC,SC	29	0.28	0.27	70	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC,SC	32	0.30	0.29	75	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC,SC,S	30	0.27	0.26	75	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC,SC	32	0.30	0.29	75	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC,SC,S	30	0.27	0.26	75	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC,SC	33	0.30	0.29	77	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC,SC,S	32	0.27	0.26	77	1.08	0.19	5.26
LOF (5)	Triple	Arg/Kry		1 2 3	N	35	0.41	0.44	70	1.31	0.23	4.35
LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	32	0.37	0.4	70	1.31	0.23	4.35
LOF (5)	Triple	Argon		1 2 3	N	35	0.41	0.44	69	1.31	0.23	4.35
LOF (5)	Triple	Argon	Y	1 2	N,NC	32	0.37	0.4	69	1.31	0.23	4.35
LOF (5)	Triple	Krypton		1 2 3	N	36	0.41	0.44	70	1.25	0.22	4.55
LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	34	0.37	0.4	70	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	38	0.40	0.42	75	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	36	0.36	0.38	75	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	38	0.40	0.42	75	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	36	0.36	0.38	75	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	39	0.40	0.42	77	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	37	0.36	0.38	77	1.08	0.19	5.26

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



4371/5371(H) – Single Hung Tilt Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	14	0.20	0.46	57	1.71	0.30	3.33
366 (2)	Double		Y	None	NC,SC,S	12	0.18	0.41	57	1.71	0.30	3.33
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	17	0.20	0.46	58	1.54	0.27	3.70
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	16	0.18	0.41	58	1.54	0.27	3.70
366 (2)	Double	Argon		1	N,NC,SC,S	17	0.20	0.46	61	1.54	0.27	3.70
366 (2)	Double	Argon	Y	1	N,NC,SC,S	16	0.18	0.41	61	1.54	0.27	3.70
Bronze/LOF (3)	Double			None	None	23	0.42	0.42	54	1.88	0.33	3.03
Bronze/LOF (3)	Double		Y	None	None	20	0.38	0.37	54	1.88	0.33	3.03
Bronze-LOF (3)	Double	Arg/Kry		1	None	25	0.42	0.42	55	1.76	0.31	3.23
Bronze-LOF (3)	Double	Arg/Kry	Y	None	NC	23	0.38	0.37	55	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon		1	None	25	0.42	0.42	57	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon	Y	None	NC	23	0.38	0.37	57	1.76	0.31	3.23
Grey-LOF (3)	Double			None	None	21	0.40	0.38	54	1.88	0.33	3.03
Grey-LOF (3)	Double		Y	None	None	19	0.36	0.33	54	1.88	0.33	3.03
Grey-LOF (3)	Double	Arg/Kry		None	NC	24	0.40	0.38	55	1.76	0.31	3.23
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	21	0.36	0.33	55	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon		None	NC	24	0.40	0.38	57	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon	Y	None	NC	21	0.36	0.33	57	1.76	0.31	3.23
LOF (3)	Double			1	None	28	0.52	0.55	54	1.88	0.33	3.03
LOF (3)	Double		Y	1	None	25	0.47	0.49	54	1.88	0.33	3.03
LOF (3)	Double	Arg/Kry		1 2	None	31	0.53	0.55	55	1.76	0.31	3.23
LOF (3)	Double	Arg/Kry	Y	1	None	28	0.47	0.49	55	1.76	0.31	3.23
LOF (3)	Double	Argon		1 2	None	31	0.53	0.55	57	1.76	0.31	3.23
LOF (3)	Double	Argon	Y	1	None	28	0.47	0.49	57	1.76	0.31	3.23
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	35	0.48	0.52	46	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N	31	0.42	0.46	46	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon		1 2 3	N	35	0.48	0.52	46	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon	Y	1 2	N	31	0.42	0.46	46	1.48	0.26	3.85
366 (2)	Triple	Arg/Kry		1 2	N,NC,SC,S	21	0.18	0.42	68	1.31	0.23	4.35
366 (2)	Triple	Arg/Kry	Y	1	N,NC,SC,S	19	0.17	0.37	68	1.36	0.24	4.17
366 (2)	Triple	Argon		1 2	N,NC,SC,S	21	0.19	0.42	68	1.31	0.23	4.35
366 (2)	Triple	Argon	Y	1	N,NC,SC,S	19	0.17	0.37	68	1.36	0.24	4.17
366 (2)	Triple	Krypton		1 2 3	N,NC,SC,S	24	0.18	0.42	71	1.19	0.21	4.76
366 (2)	Triple	Krypton	Y	1 2	N,NC,SC,S	22	0.16	0.37	71	1.19	0.21	4.76
Bronze	Triple	Arg/Kry		1	NC	25	0.40	0.4	60	1.71	0.30	3.33
Bronze	Triple	Argon		None	NC	24	0.40	0.4	60	1.76	0.31	3.23
Bronze	Triple	Krypton		1	N,NC	26	0.40	0.4	62	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Arg/Kry		1 2	N,NC	29	0.37	0.38	65	1.42	0.25	4.00
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	27	0.33	0.34	65	1.42	0.25	4.00
Bronze-LOF (5)	Triple	Argon		1 2	N,NC	29	0.37	0.38	65	1.42	0.25	4.00
Bronze-LOF (5)	Triple	Argon	Y	1 2	N,NC	27	0.33	0.34	65	1.42	0.25	4.00
Bronze-LOF (5)	Triple	Krypton		1 2	N,NC	32	0.37	0.38	68	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Krypton	Y	1 2	N,NC	30	0.33	0.34	68	1.31	0.23	4.35



4371/5371(H) – Single Hung Tilt Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	33	0.36	0.36	70	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2	N,NC	30	0.32	0.32	70	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2	N,NC	33	0.36	0.36	69	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	ABC	N,NC	30	0.32	0.32	69	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	36	0.36	0.36	72	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	34	0.32	0.32	72	1.08	0.19	5.26
Grey	Triple	Arg/Kry		None	NC	24	0.38	0.37	60	1.71	0.30	3.33
Grey	Triple	Argon		None	NC	23	0.39	0.37	60	1.76	0.31	3.23
Grey	Triple	Krypton		1	N,NC	25	0.38	0.37	62	1.65	0.29	3.45
Grey-LOF (5)	Triple	Arg/Kry		1 2	N,NC	28	0.35	0.34	65	1.42	0.25	4.00
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	27	0.32	0.3	65	1.42	0.25	4.00
Grey-LOF (5)	Triple	Argon		1 2	N,NC	28	0.35	0.34	65	1.42	0.25	4.00
Grey-LOF (5)	Triple	Argon	Y	1 2	N,NC	27	0.32	0.3	65	1.42	0.25	4.00
Grey-LOF (5)	Triple	Krypton		1 2	N,NC	31	0.35	0.34	68	1.31	0.23	4.35
Grey-LOF (5)	Triple	Krypton	Y	1 2	N,NC	28	0.31	0.3	68	1.31	0.23	4.35
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	31	0.34	0.32	70	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2	N,NC,SC	29	0.30	0.29	70	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Argon		1 2	N,NC	31	0.34	0.32	69	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2	N,NC,SC	29	0.30	0.29	69	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	35	0.34	0.32	72	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC,SC	33	0.30	0.29	72	1.08	0.19	5.26
LOF (5)	Triple	Arg/Kry		1 2 3	N	35	0.47	0.5	65	1.42	0.25	4.00
LOF (5)	Triple	Arg/Kry	Y	1 2	N	32	0.42	0.45	65	1.42	0.25	4.00
LOF (5)	Triple	Argon		1 2 3	N	35	0.47	0.5	65	1.42	0.25	4.00
LOF (5)	Triple	Argon	Y	1 2	N	32	0.42	0.45	65	1.42	0.25	4.00
LOF (5)	Triple	Krypton		1 2 3	N	38	0.47	0.5	68	1.31	0.23	4.35
LOF (5)	Triple	Krypton	Y	1 2 3	N	35	0.42	0.45	68	1.31	0.23	4.35
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	38	0.45	0.47	70	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	35	0.40	0.42	70	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	38	0.45	0.47	69	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	35	0.40	0.42	69	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	42	0.45	0.47	72	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	39	0.40	0.42	72	1.08	0.19	5.26

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



4372/5372(H) – Single Slider Liftout Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	14	0.20	0.46	57	1.71	0.30	3.33
366 (2)	Double		Y	None	NC,SC,S	12	0.18	0.41	57	1.71	0.30	3.33
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	17	0.20	0.46	61	1.54	0.27	3.70
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	16	0.18	0.41	61	1.54	0.27	3.70
366 (2)	Double	Argon		1	N,NC,SC,S	17	0.20	0.46	61	1.54	0.27	3.70
366 (2)	Double	Argon	Y	1	N,NC,SC,S	16	0.18	0.41	61	1.54	0.27	3.70
Bronze/LOF (3)	Double			None	None	21	0.42	0.41	55	1.93	0.34	2.94
Bronze/LOF (3)	Double		Y	None	None	19	0.38	0.37	55	1.93	0.34	2.94
Bronze-LOF (3)	Double	Arg/Kry		1	N	25	0.42	0.41	58	1.76	0.31	3.23
Bronze-LOF (3)	Double	Arg/Kry	Y	None	NC	22	0.37	0.37	58	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon		1	None	25	0.42	0.41	58	1.76	0.31	3.23
Bronze-LOF (3)	Double	Argon	Y	None	NC	22	0.37	0.37	58	1.76	0.31	3.23
Grey-LOF (3)	Double			None	None	20	0.40	0.38	55	1.93	0.34	2.94
Grey-LOF (3)	Double		Y	None	None	18	0.36	0.33	55	1.93	0.34	2.94
Grey-LOF (3)	Double	Arg/Kry		None	N,NC	24	0.40	0.38	58	1.76	0.31	3.23
Grey-LOF (3)	Double	Arg/Kry	Y	None	NC	21	0.36	0.33	58	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon		None	NC	24	0.40	0.38	58	1.76	0.31	3.23
Grey-LOF (3)	Double	Argon	Y	None	NC	21	0.36	0.33	58	1.76	0.31	3.23
LOF (3)	Double			1	None	27	0.52	0.55	55	1.93	0.34	2.94
LOF (3)	Double		Y	None	None	24	0.47	0.49	55	1.93	0.34	2.94
LOF (3)	Double	Arg/Kry		1 2	N	31	0.52	0.55	58	1.76	0.31	3.23
LOF (3)	Double	Arg/Kry	Y	1	None	28	0.47	0.49	58	1.76	0.31	3.23
LOF (3)	Double	Argon		1 2	None	31	0.52	0.55	58	1.76	0.31	3.23
LOF (3)	Double	Argon	Y	1	None	28	0.47	0.49	58	1.76	0.31	3.23
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	34	0.47	0.52	46	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2	N	31	0.42	0.46	46	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon		1 2 3	N	34	0.47	0.52	46	1.48	0.26	3.85
LOF-LOF (2&3)	Double	Argon	Y	1 2	N	31	0.42	0.46	46	1.48	0.26	3.85
366 (2)	Triple	Arg/Kry		1 2	N,NC,SC,S	21	0.18	0.42	68	1.31	0.23	4.35
366 (2)	Triple	Arg/Kry	Y	1	N,NC,SC,S	19	0.17	0.37	67	1.36	0.24	4.17
366 (2)	Triple	Argon		1 2	N,NC,SC,S	21	0.18	0.42	67	1.31	0.23	4.35
366 (2)	Triple	Argon	Y	1	N,NC,SC,S	19	0.17	0.37	67	1.36	0.24	4.17
366 (2)	Triple	Krypton		1 2 3	N,NC,SC,S	24	0.18	0.42	70	1.19	0.21	4.76
366 (2)	Triple	Krypton	Y	1 2	N,NC,SC,S	21	0.16	0.37	70	1.25	0.22	4.55
Bronze	Triple	Arg/Kry		1	NC	25	0.40	0.4	60	1.71	0.30	3.33
Bronze	Triple	Argon		None	NC	24	0.40	0.4	60	1.76	0.31	3.23
Bronze	Triple	Krypton		1	N,NC	26	0.40	0.4	62	1.65	0.29	3.45
Bronze-LOF (5)	Triple	Arg/Kry		1 2	N,NC	29	0.37	0.38	65	1.42	0.25	4.00
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	27	0.33	0.34	65	1.42	0.25	4.00
Bronze-LOF (5)	Triple	Argon		1 2	N,NC	29	0.37	0.38	65	1.42	0.25	4.00
Bronze-LOF (5)	Triple	Argon	Y	1 2	N,NC	27	0.33	0.34	65	1.42	0.25	4.00
Bronze-LOF (5)	Triple	Krypton		1 2	N,NC	32	0.37	0.38	68	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Krypton	Y	1 2	N,NC	30	0.33	0.34	68	1.31	0.23	4.35

4372/5372(H) – Single Slider Liftout Window Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	33	0.36	0.36	70	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2	N,NC	30	0.32	0.32	70	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2	N,NC	33	0.36	0.36	69	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	1 2	N,NC	30	0.32	0.32	69	1.25	0.22	4.55
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	36	0.36	0.36	72	1.08	0.19	5.26
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	33	0.32	0.32	72	1.14	0.20	5.00
Grey	Triple	Arg/Kry		None	NC	24	0.38	0.36	60	1.71	0.30	3.33
Grey	Triple	Argon		None	NC	23	0.38	0.36	60	1.76	0.31	3.23
Grey	Triple	Krypton		1	N,NC	25	0.38	0.36	62	1.65	0.29	3.45
Grey-LOF (5)	Triple	Arg/Kry		1 2	N,NC	28	0.35	0.34	65	1.42	0.25	4.00
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	27	0.32	0.3	65	1.42	0.25	4.00
Grey-LOF (5)	Triple	Argon		1 2	N,NC	28	0.35	0.34	65	1.42	0.25	4.00
Grey-LOF (5)	Triple	Argon	Y	1 2	N,NC	27	0.32	0.3	65	1.42	0.25	4.00
Grey-LOF (5)	Triple	Krypton		1 2	N,NC	31	0.35	0.34	68	1.31	0.23	4.35
Grey-LOF (5)	Triple	Krypton	Y	1 2	N,NC	28	0.31	0.3	68	1.31	0.23	4.35
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2	N,NC	31	0.34	0.32	70	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2	N,NC,SC	29	0.30	0.29	70	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Argon		1 2	N,NC	31	0.34	0.32	69	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2	N,NC,SC	29	0.30	0.29	69	1.25	0.22	4.55
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	35	0.34	0.32	72	1.08	0.19	5.26
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC,SC	32	0.30	0.29	72	1.14	0.20	5.00
LOF (5)	Triple	Arg/Kry		1 2 3	N	35	0.46	0.5	65	1.42	0.25	4.00
LOF (5)	Triple	Arg/Kry	Y	1 2	N	32	0.42	0.44	65	1.42	0.25	4.00
LOF (5)	Triple	Argon		1 2 3	N	35	0.46	0.5	65	1.42	0.25	4.00
LOF (5)	Triple	Argon	Y	1 2	N	32	0.42	0.44	65	1.42	0.25	4.00
LOF (5)	Triple	Krypton		1 2 3	N	37	0.46	0.5	68	1.31	0.23	4.35
LOF (5)	Triple	Krypton	Y	1 2 3	N	35	0.42	0.44	68	1.31	0.23	4.35
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	38	0.45	0.47	70	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	35	0.40	0.42	70	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	38	0.45	0.47	69	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	35	0.40	0.42	69	1.25	0.22	4.55
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	42	0.45	0.47	72	1.08	0.19	5.26
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	37	0.40	0.42	72	1.14	0.20	5.00

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



4377/5377(H) – Picture Window (Singles Frame) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
366 (2)	Double			None	NC,SC,S	16	0.21	0.49	59	1.65	0.29	3.45
366 (2)	Double		Y	None	NC,SC,S	15	0.19	0.43	59	1.65	0.29	3.45
366 (2)	Double	Arg/Kry		1	N,NC,SC,S	20	0.21	0.49	63	1.48	0.26	3.85
366 (2)	Double	Arg/Kry	Y	1	N,NC,SC,S	19	0.19	0.43	63	1.48	0.26	3.85
366 (2)	Double	Argon		1	N,NC,SC,S	20	0.21	0.49	63	1.48	0.26	3.85
366 (2)	Double	Argon	Y	1	N,NC,SC,S	19	0.19	0.43	63	1.48	0.26	3.85
Bronze/LOF (3)	Double			1	None	26	0.44	0.44	56	1.82	0.32	3.13
Bronze/LOF (3)	Double		Y	None	NC	23	0.40	0.39	56	1.82	0.32	3.13
Bronze-LOF (3)	Double	Arg/Kry		1 2	N	29	0.44	0.44	60	1.65	0.29	3.45
Bronze-LOF (3)	Double	Arg/Kry	Y	1	N,NC	27	0.40	0.39	60	1.65	0.29	3.45
Bronze-LOF (3)	Double	Argon		1 2	N	29	0.44	0.44	60	1.65	0.29	3.45
Bronze-LOF (3)	Double	Argon	Y	1	N,NC	27	0.40	0.39	60	1.65	0.29	3.45
Grey-LOF (3)	Double			None	None	24	0.42	0.4	56	1.82	0.32	3.13
Grey-LOF (3)	Double		Y	None	NC	22	0.38	0.35	56	1.82	0.32	3.13
Grey-LOF (3)	Double	Arg/Kry		1	N	28	0.42	0.4	60	1.65	0.29	3.45
Grey-LOF (3)	Double	Arg/Kry	Y	1	N,NC	26	0.38	0.35	60	1.65	0.29	3.45
Grey-LOF (3)	Double	Argon		1	N	28	0.42	0.4	60	1.65	0.29	3.45
Grey-LOF (3)	Double	Argon	Y	1	N,NC	26	0.38	0.35	60	1.65	0.29	3.45
LOF (3)	Double			1 2	None	32	0.55	0.58	56	1.82	0.32	3.13
LOF (3)	Double		Y	1	None	28	0.49	0.52	56	1.82	0.32	3.13
LOF (3)	Double	Arg/Kry		1 2 3	N	36	0.55	0.58	60	1.65	0.29	3.45
LOF (3)	Double	Arg/Kry	Y	1 2	N	33	0.50	0.52	60	1.65	0.29	3.45
LOF (3)	Double	Argon		1 2 3	N	36	0.55	0.58	60	1.65	0.29	3.45
LOF (3)	Double	Argon	Y	1 2	N	33	0.50	0.52	60	1.65	0.29	3.45
LOF-LOF (2&3)	Double	Arg/Kry		1 2 3	N	39	0.50	0.54	47	1.36	0.24	4.17
LOF-LOF (2&3)	Double	Arg/Kry	Y	1 2 3	N	36	0.45	0.48	47	1.36	0.24	4.17
LOF-LOF (2&3)	Double	Argon		1 2 3	N	39	0.50	0.54	46	1.36	0.24	4.17
LOF-LOF (2&3)	Double	Argon	Y	1 2 3	N	36	0.45	0.48	46	1.36	0.24	4.17
366 (2)	Triple	Arg/Kry		1 2 3	N,NC,SC,S	25	0.19	0.44	70	1.19	0.21	4.76
366 (2)	Triple	Arg/Kry	Y	1 2	N,NC,SC,S	23	0.18	0.39	70	1.25	0.22	4.55
366 (2)	Triple	Argon		1 2	N,NC,SC,S	24	0.20	0.44	69	1.25	0.22	4.55
366 (2)	Triple	Argon	Y	1 2	N,NC,SC,S	22	0.18	0.39	69	1.31	0.23	4.35
366 (2)	Triple	Krypton		1 2 3	N,NC,SC,S	27	0.19	0.44	73	1.08	0.19	5.26
366 (2)	Triple	Krypton	Y	1 2 3	N,NC,SC,S	25	0.17	0.39	73	1.14	0.20	5.00
Bronze	Triple	Argon		1	N	28	0.42	0.42	61	1.65	0.29	3.45
Bronze	Triple	Krypton		1 2	N	31	0.42	0.42	64	1.54	0.27	3.70
Bronze-LOF (5)	Triple	Arg/Kry		1 2 3	N,NC	34	0.39	0.4	68	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	32	0.35	0.35	68	1.31	0.23	4.35
Bronze-LOF (5)	Triple	Argon		1 2	N,NC	33	0.39	0.4	67	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Argon	Y	1 2	N,NC	30	0.35	0.35	67	1.36	0.24	4.17
Bronze-LOF (5)	Triple	Krypton		1 2 3	N,NC	36	0.39	0.4	71	1.19	0.21	4.76
Bronze-LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	34	0.35	0.35	71	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	37	0.38	0.37	72	1.14	0.20	5.00



4377/5377(H) – Picture Window (Singles Frame) Energy Rating

October 2015

Glass Options	Glazing	Gas	Grille	Energy Star Zone(s)		ER	SHGC	VT	CR	U-Value (Metric)	U-Value (Imperial)	R-Value (Imperial)
				Canada	US							
Bronze-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	35	0.34	0.33	72	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	37	0.38	0.37	72	1.14	0.20	5.00
Bronze-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	34	0.34	0.33	72	1.19	0.21	4.76
Bronze-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	40	0.38	0.37	76	1.02	0.18	5.56
Bronze-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	37	0.34	0.33	76	1.02	0.18	5.56
Grey	Triple	Argon		1	N,NC	27	0.40	0.38	61	1.65	0.29	3.45
Grey	Triple	Krypton		1 2	N,NC	30	0.40	0.38	64	1.54	0.27	3.70
Grey-LOF (5)	Triple	Arg/Kry		1 2	N,NC	33	0.37	0.36	68	1.31	0.23	4.35
Grey-LOF (5)	Triple	Arg/Kry	Y	1 2	N,NC	30	0.33	0.32	68	1.31	0.23	4.35
Grey-LOF (5)	Triple	Argon		1 2	N,NC	32	0.37	0.36	67	1.36	0.24	4.17
Grey-LOF (5)	Triple	Argon	Y	1 2	N,NC	30	0.34	0.32	67	1.36	0.24	4.17
Grey-LOF (5)	Triple	Krypton		1 2 3	N,NC	35	0.37	0.36	71	1.19	0.21	4.76
Grey-LOF (5)	Triple	Krypton	Y	1 2 3	N,NC	33	0.33	0.32	71	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N,NC	36	0.36	0.34	72	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N,NC	34	0.32	0.3	72	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Argon		1 2 3	N,NC	36	0.36	0.34	72	1.14	0.20	5.00
Grey-LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N,NC	32	0.32	0.3	72	1.19	0.21	4.76
Grey-LOF-LOF (3&5)	Triple	Krypton		1 2 3	N,NC	38	0.36	0.34	76	1.02	0.18	5.56
Grey-LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N,NC	36	0.32	0.3	76	1.02	0.18	5.56
LOF (5)	Triple	Arg/Kry		1 2 3	N	40	0.49	0.53	68	1.31	0.23	4.35
LOF (5)	Triple	Arg/Kry	Y	1 2 3	N	37	0.44	0.47	68	1.31	0.23	4.35
LOF (5)	Triple	Argon		1 2 3	N	39	0.49	0.53	67	1.36	0.24	4.17
LOF (5)	Triple	Argon	Y	1 2 3	N	36	0.44	0.47	67	1.36	0.24	4.17
LOF (5)	Triple	Krypton		1 2 3	N	42	0.49	0.53	71	1.19	0.21	4.76
LOF (5)	Triple	Krypton	Y	1 2 3	N	39	0.44	0.47	71	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Arg/Kry		1 2 3	N	42	0.47	0.5	72	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Arg/Kry	Y	1 2 3	N	40	0.43	0.44	72	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Argon		1 2 3	N	42	0.47	0.5	72	1.14	0.20	5.00
LOF-LOF (3&5)	Triple	Argon	Y	1 2 3	N	38	0.42	0.44	72	1.19	0.21	4.76
LOF-LOF (3&5)	Triple	Krypton		1 2 3	N	45	0.48	0.5	76	1.02	0.18	5.56
LOF-LOF (3&5)	Triple	Krypton	Y	1 2 3	N	42	0.43	0.44	76	1.02	0.18	5.56

(SHGC) Solar Heat Gain Coefficient: The higher the SHGC, the more solar heat the window allows.

(VT) Visible Transmittance: The higher the VT, the more daylight is allowed in.

(CR) Condensation Resistance: The higher the CR, the less likely condensations is to occur.



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Glossary of Terms

Acrylic – A synthetic resin or acrylic or methacrylic esters. Acrylics are known for their property of clarity

Active Panel – Primary operating door panel

Air Infiltration - Air that leaks in and out of a home or building through cracks in walls, windows and doors is considered “infiltration”. The lower a window’s air infiltration rating, the more airtight it is.

Argon Gas – An inert, colourless and odourless gas used to fill the airspace between insulating Low E glass

Argon and Krypton - Argon and krypton are odorless, colorless, non-toxic inert gases that can be used instead of air between panes of glass to increase insulation and energy efficiency. Argon is the cheaper, more readily available gas, but krypton is a better insulator in narrow air spaces. Often, manufacturers will use a blend of air, argon, and/or krypton to balance cost and performance.

Assembly – Single units mulled together

Awning Window – A combination of frame and sash, hinged to allow the unit to pivot from the top with the sash opening to the exterior of the building

Balances – A steel spiral rod and spring system used in the jamb liner of Double Hung or Single Hung units

Bay Window – A series of three windows installed with two flanker units and a center sash, forming an arc or a polygon. North Star bay windows can be built at one of two fixed angles: 30° or 45°

Bow Window – A series of adjoining window units, installed on a radius

Brickmold – An exterior molding of window and door frames that abuts the exterior facing material of the structure

Calendar – A machine for giving a gloss to cloth, paper, etc. by pressing between rollers

Cam Lock – A lever-operated lock which is used to prevent intrusion through the sash

Capillary Tubes – A tube inserted into the insulating glass spacer that allows the inside and outside air pressure to equalize in higher elevations

Casement Window – A combination of frame and sash, hinged to allow the unit to swing open from the side like a door, with the sash opening to the exterior of the building

Condensation - Condensation on windows occurs when the surface temperature of the glass (glazing), sash or frame is lower than that of the humid air around it. The moisture vapour in the air changes into liquid water on contact with these cold surfaces.

(Exterior) Condensation - Energy-efficient windows will occasionally have condensation on the exterior glass surface. This usually happens during periods of warm weather and high humidity near the time of sunrise. Because energy-efficient windows greatly reduce the amount of heat escaping to the outside (which is good during the long periods of cold weather), the exterior glass surface is cool enough to allow condensation to form for a short period of time.

Condensation Resistance (CR) - CR measures how well a product resists the formation of condensation. CR is reported on a scale of 1 to 100. The higher the number, the better a product is at resisting condensation.



Divided Lites – Division of lite by the use of muntin bars

Muntins: The actual bars that create a pattern in the window

Simulated Divided Lites: Muntins permanently adhered to the interior and exterior of the glass

Grilles: Muntins in between the glass panes to create the effect of divided lites

Double Hung – Double Hung windows have two movable sashes which operate vertically

Energy Rating System (ER) - A window's ER rating is a measure of its overall performance, based on three factors: 1) solar heat gains; 2) heat loss through frames, spacer and glass; and 3) air leakage heat loss. All window Energy Ratings (ER) are evaluated in the same way.

Energy Star® Symbol - The international Energy Star® symbol is a simple way for consumers to identify products that are among the most energy-efficient on the market. Only manufacturers and retailers whose products meet the Energy Star® criteria can label their products with this symbol. Choosing an Energy Star® labeled product over a conventional model could save you hundreds of dollars in energy costs.

Canada and the United States have long been involved in the Energy Star® program and utilize a zone default qualification schedule. Qualifications are based on "U-Factors" and "SHGC" (solar heat gain coefficient), or "ER Ratings" in Canada.

Extrusion – Compacting and melting a plastic material and forcing it through an orifice in a continuous fashion

Finger Joint – A series of fingers machined into the ends of two pieces of lumber to be joined together. They are then held firmly in position by adhesive. Finger-jointed wood is very strong and has a lesser chance of warping than a clear piece of wood of the same length does

Fold-Down Handle - Optional fold-down handles offer a sleeker profile, are less obtrusive to your opening and allow window treatments to close better.

Glass Size (GS) – The measurement of the actual glass, not the visible glass

Glazing – Installing glass into windows and doors

Glider/Slider – Horizontal operating units which have one sash fixed, while the other glides open and shut horizontally

Grilles - Contour and Flat grilles add a decorative element to windows and are available in many styles. Choose a standard size or customize to the dramatic shapes of our architectural windows. Available in white, ivory, hickory, chestnut brown, cocoa, sable, sandalwood, black, brass and pewter. These grilles offer a perfect accent to any window.

Inactive Panel – Secondary operating door panel

Insulating Glass (IG) – Two panes of glass separated by a spacer and hermetically sealed together with dead air space between panes

Interior Casing – The casing trim used on the interior perimeter of the window or door. Generally supplied by others except in the case of round top casing, which is factory supplied

Jamb Extension – A jamb-like member, usually surfaced on four sides, which increases or extends the depth of the exterior or interior window or door frame; jamb extensions imply a larger depth than vinyl jamb liners

Laminated Glass – Glass composed of two sheets fused together with a sheet of transparent plastic between the sheets. When broken, laminated glass will generally not leave the opening

Laminating – A method of gluing strips of thin clear wood to the lengthwise surfaces of finger-jointed material to provide the appearance of clear stock

Low E Glass – Low E stands for low emissivity. The lower the emissivity, the higher the percentage of long-wave radiation blocked, thereby improving thermal performance. Low E glass is coated with a microscopic, virtually invisible metal or metallic oxide layer. The primary function is to reduce the U-Value by suppressing radiative heat flow. A secondary feature is the blocking of short wave radiation to impede heat gain

LoE 366 (Cardinal) - LoE 366 – Is recommended when cooling costs outweigh heating costs in your energy usage, or where summer discomfort from heat build-up should be an important concern. This is the best glass for most applications in a southern climate. It has a very high reflection rate of the radiant outside heat to prevent heat gain in summer and in winter it still retains radiant once you turn on your furnace! LoE 366 has a lower Solar Heat Gain Coefficient (SHGC) in order to minimize Solar Heat Gain that results in extra work for your air conditioning unit.

LOF (Libby Owens Ford) / Pilkington Energy Advantage - LOF – Pilkington Energy Advantage Low-E is the best glass for most applications in a northern climate. It has a very high retention rate of the heat in your home in winter and prevents heat gain in summer. Energy Advantage Glass has a higher Solar Heat Gain Coefficient (SHGC) than Low-E glass designed for southern climates. It provides free winter heat for your home. Since as much as 95% of your energy expense for heating and cooling combined is for heating, this glass is more cost effective than other glass without a high SHGC.

Masonry Opening – A brick, stone or block opening into which a window or door unit is installed, including the outside casing

Mulling – The act of attaching two or more window or door units together. The joint is then finished with a mullion center cap or coupler trim

Mullion – The vertical member of a sash, window or door frame between openings in a multiple opening frame

Multi-Lock Hardware – An adjustable lock system used to ensure a tight seal and provide a secure locking system

Multi-Point Locking System – A line of standard or optional multiple-point locking mechanisms installed on the operative panel(s)/sash of various North Star patio door products to enhance security and performance

Obscure Glass – Glass formed by running molten glass through special rollers. These rollers have a pattern on them causing the glass to become patterned and thus obscure

Operator – An operating sash, panel or unit

Organic (Chem) – Of, or pertaining to, compounds containing carbon. Inherent in, or pertaining to, the fundamental structure of something

OSM – Outside Measurement

Patina – The natural, ever-changing finish that occurs when copper or bronze is exposed to the elements. A patina can also be created using a solution to start a chemical reaction in the metal

Pitch – A term used to describe the angle of a roof. For example: A 4-12 pitch indicates that the roof rises 4” vertically for each 12” horizontally

Plastics (Chem) – One of a large class of synthetic organic compounds capable of being molded, extruded, cast or drawn into filaments

Plinth Block – A decorative wood block placed between the vertical casing and the top casing of a unit to provide an elegant interior casing profile

Polymer – Compound of high molecular weight formed by the chemical combination of two or more molecules of the same kind



Polyurethane – Any of various polymers that contain NHCOO linkages and are used especially in flexible and rigid foams, elastomers and resins (as for coatings)

Prime – The first coat of paint in an application that consists of two or more coats; also refers to the paint used for such an initial coat; primer

R-Value – The resistance a material has to heat flow. Higher numbers indicate greater insulating capabilities

Radius – The length of an imaginary line from the center point of a circle to the arc or circumference of a circle

Rail – The cross or horizontal member of the framework of a sash, door or other panel assembly

Resin – A powder-like substance that is derived from sodium chloride (raw salt) and natural gas

RF – The percent of visible light reflected from a glazing system

Roto Gear – A term used to describe the steel drive worm, gears and crank device used for opening standard Awnings and Casements

Rough Opening – The opening in the wall where a window or door unit is to be installed. Openings are larger than the size of the unit to allow room for insulation and to shim the unit square

Round Top – Generally a semicircular window that is mulled to the top of another window or door, thus forming the round top appearance

Sash – The operating and/or stationary portion of the window unit that is separate from the frame

Sash Lock – A locking device which holds a window shut

Screens – A close-mesh woven screen material used to inhibit entry of insects, yet permit light, air and vision

Screen Pull Tabs - Screen pull tabs are constructed from a durable nylon material and are installed as an integral part of the screen itself, for ease of removal.

Sidelite – A stationary or operating glass panel mulled to or installed next to a door

Sill – The horizontal member forming the bottom of a window or exterior door frame; the lowest member of the frame of a structure, resting on the foundation and supporting the frame

Single Hung – A window very similar to a Double Hung window, except that the top sash is stationary or non-operable

Solar Energy Transmittance – The percentage of the solar spectrum energy (ultraviolet, visible and near infrared) that is directly transmitted through the glass product

Solar Heat Gain Coefficient (SHGC) – The ratio of solar heat gain through a glazing system compared to that of an unobstructed opening

Solvent – A substance, generally a liquid, capable of dissolving other substances

Shading Coefficient – Relative measure of the total amount of solar energy that enters a building space through a glazing system compared to the total amount of solar energy that enters a building through a single 1/8" clear glass pane

Spacer – Used to separate the two pieces of glass in an insulating glass panel

Square Foot – For measuring the area of a unit. R.O. width (in inches) x R.O. height (in inches) divided by 144 equals a unit's area in square feet

Stile – The upright or vertical perimeter piece of a sash, panel or screen

Stool – A horizontal trim member that laps the window sill above the apron and extends beyond the interior casing

Super Spacer - A highly UV-resistant and, flexible silicone foam designed as the spacer between glass panes in sealed unit production. Units constructed of super spacer satisfy the toughest warm edge demands by:

- resisting condensation
- reducing energy costs
- providing long-life durability
- reducing outside noise distractions

Tempered Glass – Float glass panels heated and then cooled rapidly in a controlled environment. This process makes the glass several times stronger than regular glass. It also makes it safer because when broken, it yields small pebble-like fragments

Template – A pattern of a window unit from which dimensions and measurements can be determined

Thermoplastics – Resins or plastic compounds which, in their final state as finished articles, are capable of being repeatedly softened by an increase of temperature and hardened by a decrease in temperature

Thermoset – A product that will become permanently rigid when heated or cured (a thermosetting resin)

U-Factor – A measure of total heat flow through a window or door barrier from room air to outside air. Lower numbers indicate greater insulating capabilities

% UV Transmittance – The percentage of ultra violet radiated wavelengths allowed to be transmitted through the glazed product

Visible Light Transmittance (VLT) – The percent of visible light transmitted through a glazing system