WINDOW INSTALLATION INSTRUCTION

A GOOD INSTALLATION ENSURES LASTING WINDOW PERFORMANCE.

BUILDING CODES, ENVIRONMENTAL CONDITIONS, APPROVED SHOP DRAWINGS MAY VARY & SUPERSEDE THE PROCEDURES CONTAINED BELOW. THE RESPONSIBILITY FOR COMPLIANCE IS THE PROJECT'S OWNER(S), INSTALLERS, ARCHITECT, INSPECTORS, & BUILDING SCIENTISTS.

1. HANDLE CAREFULLY
2. STORE WITH NON-ABRASIVE SEPARATORS BETWEEN FRAMES. WINDOWS SHOULD BE STORED IN A PLACE PROTECTED FROM WEATHER.
3. ALTERATIONS – WINDOWS SHOULD NOT BE LOAD BEARING AFTER INSTALLATION. WINDOWS SHOULD NOT BE MODIFIED TO ACCOMMODATE AIR CONDITIONERS, EXHAUST FANS, ETC.
4. R.O. – PRODUCT WAS DEVELOPED & TESTED IN A WINDOW WALL INTERFACE SYSTEM DESIGNED TO MANAGE WATER. SEE BRICK VENEER SILL EXAMPLE 4) BELOW FOR LOW TO MODERATE DESIGN PRESSURE REQUIREMENTS.
5. ANCHORAGE – WINDOW FRAMES SHOULD BE SET PLUMB, SQUARE, SHIMMED AND SECURED TO SURROUNDING STRUCTURE. WINDOW ANCHORAGE MUST BE SUFFICIENT TO MEET STRUCTURAL REQUIREMENTS OF LOCAL BUILDING CODES. ALLOW AT LEAST 6mm (+1/4")SPACE BETWEEN THE FRAME AND ROUGH OPENING FOR SHIMMING AND ADJUSTMENT. ALWAYS ADJUST ANCHOR POSITION, SHIMMING THICKNESS TO MAINTAIN STRAIGHT AND PARALLEL LINES BETWEEN SASH AND FRAME. ENSURE ADEQUATE AND LEVEL SUPPORT OF THE SILL.

   SHIMS REQUIRED TO SUPPORT FULLY ENTIRE DEPTH OF WINDOW FRAME AT ALL ANCHORS POINTS.

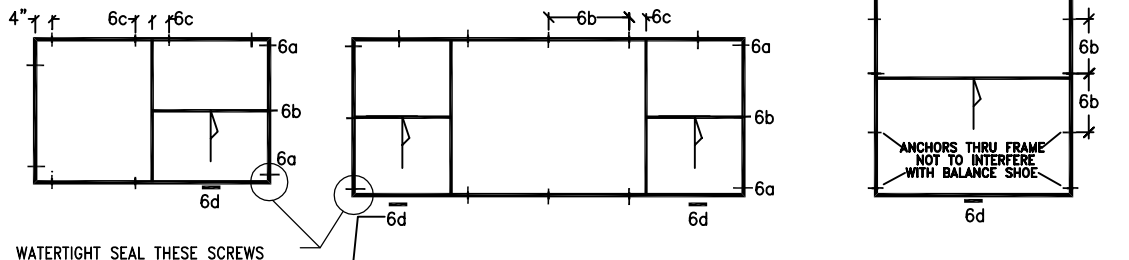
6a. CORNER ANCHORS – SECURE WITHIN 100mm (4") MAXIMUM FROM THE CORNERS.

6b. PERIMETER ANCHORS – SPACING SHOULD NOT EXCEED 600mm (18") ON CENTER.

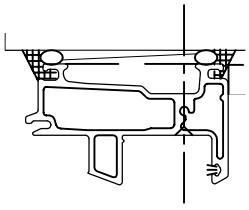
6c. MULLION AND TRANSOM ANCHORS – ALWAYS ANCHOR WITHIN 100mm (4") MAXIMUM FROM MULLION OR TRANSOM (IT IS ALWAYS A CRITICAL AREA FOR ANCHORAGE).
NOTE:1).IF ANCHOR IS PROVIDED BY DIRECT FASTENING USE WASHER TYPE OF FASTENERS, FULLY SUPPORT FRAME AT FASTENER LOCATION

7. PERIMETER CAVITIES – BETWEEN WINDOW FRAMES AND ROUGH OPENING (R.O.).
INSULATE CONTINUOUS AROUND INNER PERIMETER OF WINDOW WITH LOW EXPANSION FOAM OR FIBER TYPE INSULATION.
CAUTION: DO NOT DISTORT FRAME BY OVER FILLING OR OVERPACKING.
NOTE: AN INSULATED CAVITY IMPROVES THERMAL PERFORMANCE.
8. CAULK THE EXTERIOR PERIMETER TO PROVIDE SEAL BETWEEN WALL AND WINDOW TO ENSURE CONTINUITY OF WEATHER TIGHTNESS.
9. CAULK AND/OR TAPE INTERIOR PERIMETER TO PROMOTE CONTINUITY OF AIR BARRIER TO MINIMIZE RISK OF CONDENSATION WITHIN THE CAVITY & TO MEET TESTED AIR & WATER RESISTANCE LEVELS.
10. MAINTANANCE – WASH GLASS, FRAME, & HARDWARE WITH NON-ABRASIVE CLEANER & WATER. CLEAN & LUBRICATE WITH ONLY SILICONE LUBRICANT ALL HARDWARE & WEATHERSTRIP IMMEDIATELY AFTER WINDOW IS INSTALLED, & EVERY SIX MONTHS MIN. TO MAINTAIN EASE OF OPERATION.

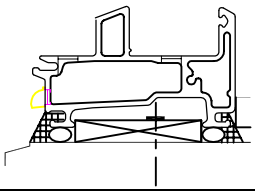
RECOMMENDED MINIMUM ANCHOR LOCATIONS (SCREW, STRAP ANCHOR OR NAILING FIN)

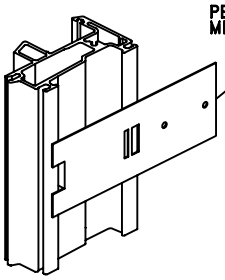


WATERTIGHT SEAL THESE SCREWS IF DIRECTLY PENETRATING SIDE WALL



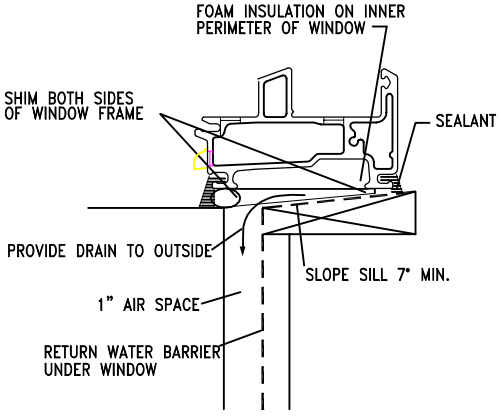
SCREW ANCHORAGE





6d. SCREWS SHOULD NOT PENETRATE SILL
PRE-ATTACH TO ROUGH OPENING 3" x 4" LONG ANCHOR BLOCK SO IT CATCHES BOTH SIDES OF FRAME

4) EXAMPLE: WATER MANAGEMENT AT SILL



ITEM.	QTY.	DWG.NO./CAT.NO.	DESCRIPTION	MATERIAL

INLINE FIBERGLASS
30 Constellation Court
Toronto, Ontario M9W 1K1

SHEET 1/1

NO.	REVISION	DATE
1.	K.C.	Mar.07

WINDOW INSTALLATION INSTRUCTION

DR. BY.	R.N.
DATE	Apr.06
SCALE	

850-000

THERMAL PERFORMANCE VALUES

850 SERIES > SINGLE HUNG(see notes at end)

SINGLE HUNG	U Value	SHGC	Vt	ER
Dual Pane - Low-E / Hard Coat	0.33	0.55	0.57	30
Dual Pane - Low-E / Soft Coat	0.30	0.32	0.54	20
Dual Pane - Low-E 366	0.30	0.21	0.49	15
Triple Pane - Low-E / Hard Coat x 2*	0.23	0.43	0.48	36
Triple Pane - Low-E / Soft Coat x 2*	0.21	0.27	0.43	29

Note: All values have been verified by the NFRC and Energy Star Canada. The reader is cautioned that test results should be used for comparison purposes only. Results are size and installation dependent.

For recommendations as to what glazing configurations are best suited for your application, please feel free to contact us.

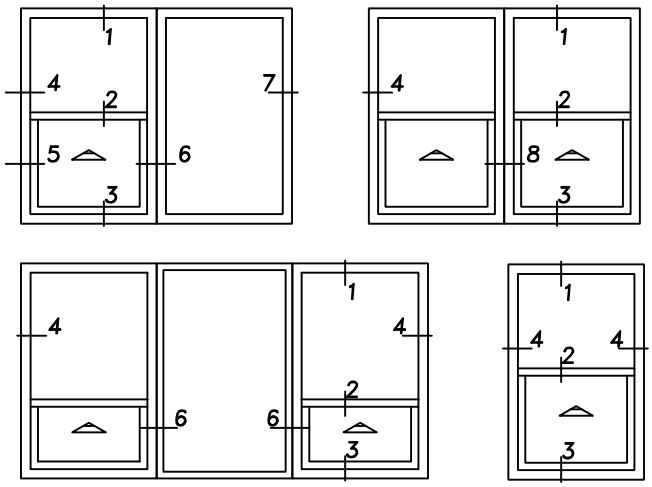
For a full listing of thermal performance values, visit www.NFRC.org. All information can be found in the "Certified Products Directory". Please feel free to contact us if any assistance is required.

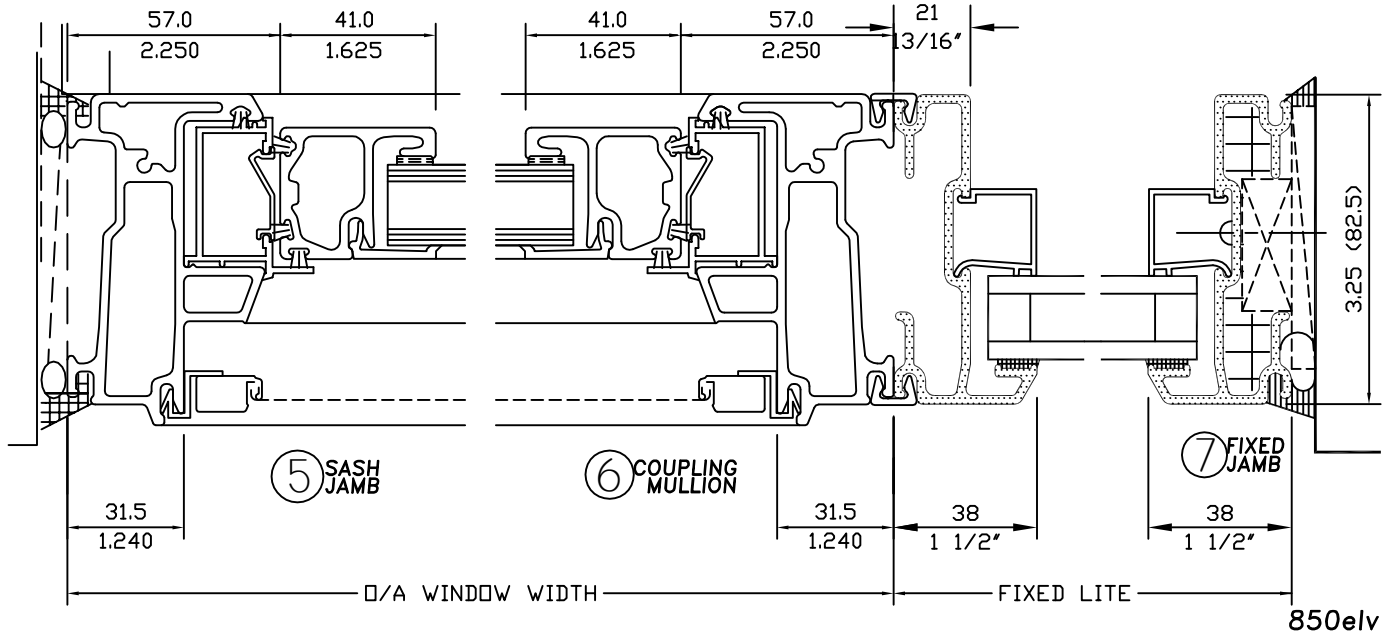
INLINE also complies with all North American Energy Star zoning requirements.

* Krypton Gas Fill

INLINE FIBERGLASS
850 series WINDOWS

VERTICAL SINGLE HUNG
TILT WINDOW





850elv
\DWG\900 JAN / 00

850 SERIES
SINGLE HUNG VERTICAL SLIDER

TEST REPORT SUMMARY
In compliance to AAMA/ 101/I.S.2/ CSA A440

TEST SIZE	1121mm x 1593mm
	44 1/8" x 62 3/4"

TEST	**REQUIREMENTS**		**RESULTS**	**GRADE**	
	TEST STANDARD	**TEST CRITERIA**		**AAMA**	**CSA**
Air Tightness	ASTM E 283	75 pa (1.57 psf)	+/- 0.40 $m^3/h/m$ +/- 0.087 cfm/ft^2	A3	A3
Water Tightness	ASTM E 547	700 pa (12 psf)	No Leakage	DP 90	B7
Wind Load Resistance	ASTM E 330	4000 pa (97.5 psf)	No Deformation	DP 65	C4
Series 850 single hung window is rated H-R 65 design pressure 65 @ test pressure 314 kph (195 mph).					

Energy Ratings

The Thermal Performance Values shown below, are based on products glazed with 13/16" (20mm) insulating glass units comprising one lite of Low-E glass, clear glass an argon filled cavity, and a double sealed aluminum spacer.

Higher performance may be achieved by using various glass coatings, inert gasses, and/or warm edge spacers.

Performance	**CSA 440.2**	**NFRC 100** Residential 36" x 60"	**NFRC 100** Non-Residential 48" x 72"
U-Value Frame	2.81 $W/m^2/c$	0.51 $Btu/h/ft^2/F$	0.51 $Btu/h/ft^2/F$
U-Value Window	2.04	0.36	0.35
SHGC - No Grill	0.48	0.48	0.49
SHGC - With Grill	0.44	0.44	0.45
VLT - No Grill	0.54	0.54	0.56
VLT - With Grill	0.48	0.48	0.51

Note: The reader is cautioned that test results should be used for comparison purposes only. Results are size and installation dependent. In-Service performance can be significantly different from those shown. Product tested indicates design potential.

SINGLE HUNG
VERTICLE SLIDING WINDOW

PRODUCT
Shall be 850 Series Fiberglass, Single Hung Window Assemblies, as manufactured by INLINE FIBERGLASS Limited. Frames are 82.5mm (3-1/4") deep and in compliance with AAMA 101/1.S.2 rating: H-R 65 and CSA A440 rating: A3, B7, C4.

MATERIAL
All frame and sash profiles are made from pultruded fiberglass, having a nominal wall thickness of 2.3mm (0.09."). Non-structural accessory members may be vinyl or aluminum and identified as such.

CONSTRUCTION
Frame and sash corners are connected with molded reinforced polymer components and mechanically secured. Joints are factory sealed and neatly fitted together.

FINISH
All exposed surfaces are coated with durable acrylic urethane top coat with a medium gloss of 17-35. In compliance with AAMA-613. Available in five standard colours. Unlimited custom colours, including split finish.

HARDWARE
Locks: One or two sets of die-cast cam locks with release latch and keepers. Two spiral sash balances for each sash (optional are stainless steel constant force balances), two pairs of tilt latch assemblies, two pairs of pivot bars, and integral lift pull or add-on lift handles. Sash opening restrictors are optional extra. Hardware is installed with fasteners into patented back-up reinforcing clips.

WEATHER-STRIPPING
Windows are designed as a "Pressure Equalized Rain Screen System", with pile, Q-Lon gaskets and dust plugs to provide a positive air and vapor seal.

GLASS
All windows are glazed with 20mm (13/16") insulating glass units. Glass thickness shall be in accordance with applicable Building Codes, but not less than 3mm (1/8"). Inline recommends the use of double-sealed insulating glass units certified by IGMAC or SIGMA. The full range of glazing options are available including: colonial grilles, low conductivity spacers, inert gas fills, and glazings to reduce heat loss, solar heat gain, and visible light transmission.

GLAZING METHOD
Laid-in glazing using polyethylene closed cell adhesive tape on the interior and a fiberglass glass stop locked-in from the exterior provides a secure and positive seal for the glass.

INSECT SCREENS
Half-height, roll-formed aluminum frame with friction fit corner keys. Screen mesh (Fiberglass or Aluminum) retained by vinyl spline.

INSTALLATION
Shall be performed by experienced installers in accordance with manufacturer's instructions and CSA-A440.4. Window shall be plumb and square after installation is complete and sealed to both interior and exterior walls with a high quality sealant around the perimeter of the frame. If perimeter cavity is to be foamed, additional anchorage may be required to prevent bowing. It shall be the responsibility of the installers to make all necessary final adjustments to ensure normal and smooth operation.

MAINTENANCE
To maintain performance and ease of operation, clean glass, frames and fly screen, vacuum weather stripping and sill, lubricate hardware and weather-stripping with only silicone spray, a minimum of every six months.

- Due to constant product improvements, Inline reserves the right to change information herein without notice.

WINDOW INSTALLATION INSTRUCTION

A GOOD INSTALLATION ENSURES LASTING WINDOW PERFORMANCE.

BUILDING CODES, ENVIRONMENTAL CONDITIONS, APPROVED SHOP DRAWINGS MAY VARY & SUPER CEDE THE PROCEDURES CONTAINED BELOW. THE RESPONSIBILITY FOR COMPLIANCE IS THE PROJECT'S OWNER(S), INSTALLERS, ARCHITECT, INSPECTORS, & BUILDING SCIENTISTS.

1. HANDLE CAREFULLY
2. STORE WITH NON–ABRASIVE SEPARATORS BETWEEN FRAMES. WINDOWS SHOULD BE STORED IN A PLACE PROTECTED FROM WEATHER.
3. ALTERATIONS – WINDOWS SHOULD NOT BE LOAD BEARING AFTER INSTALLATION. WINDOWS SHOULD NOT BE MODIFIED TO ACCOMMODATE AIR CONDITIONERS, EXHAUST FANS, ETC.
4. R.O. – PRODUCT WAS DEVELOPED & TESTED IN A WINDOW WALL INTERFACE SYSTEM DESIGNED TO MANAGE WATER. SEE BRICK VENEER SILL EXAMPLE 4) BELOW FOR LOW TO MODERATE DESIGN PRESSURE REQUIREMENTS.
5. ANCHORAGE – WINDOW FRAMES SHOULD BE SET PLUMB, SQUARE, SHIMMED AND SECURED TO SURROUNDING STRUCTURE. WINDOW ANCHORAGE MUST BE SUFFICIENT TO MEET STRUCTURAL REQUIREMENTS OF LOCAL BUILDING CODES. ALLOW AT LEAST 6mm (+1/4")SPACE BETWEEN THE FRAME AND ROUGH OPENING FOR SHIMMING AND ADJUSTMENT. ALWAYS ADJUST ANCHOR POSITION, SHIMMING THICKNESS TO MAINTAIN STRAIGHT AND PARALLEL LINES BETWEEN SASH AND FRAME. ENSURE ADEQUATE AND LEVEL SUPPORT OF THE SILL.

   SHIMS REQUIRED TO SUPPORT INTERIOR & EXTERIOR OF WINDOW FRAME AT ALL ANCHORS & ESPECIALLY AT SILL.

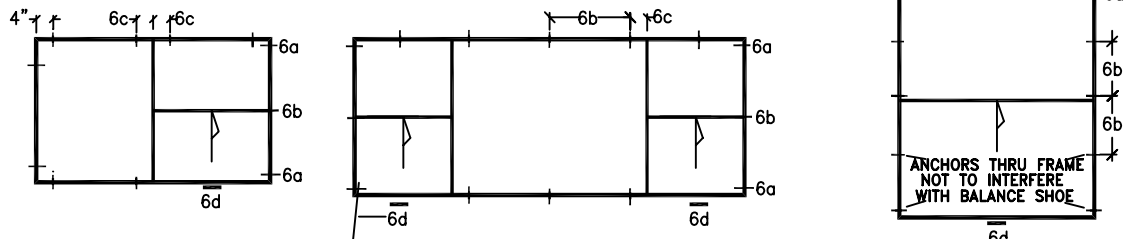
6a. CORNER ANCHORS – SECURE WITHIN 100mm (4") MAXIMUM FROM THE CORNERS.

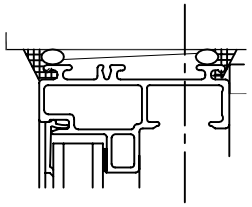
6b. PERIMETER ANCHORS – SPACING SHOULD NOT EXCEED 450mm (18") ON CENTER.

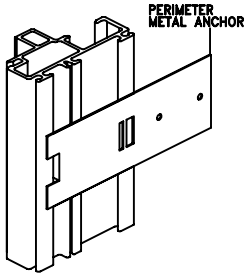
6c. MULLION AND TRANSOM ANCHORS – ALWAYS ANCHOR WITHIN 100mm (4") FROM MULLION OR TRANSOM (IT IS ALWAYS A CRITICAL AREA FOR ANCHORAGE).
NOTE:1).IF ANCHOR IS PROVIDED BY DIRECT FASTENING USE WASHER TYPE OF FASTENERS, FULLY SUPPORT FRAME AT FASTENER LOCATION
2). SEAL ALL FASTENER PENETRATION THROUGH WINDOW SILL.

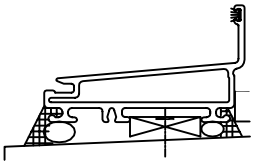
7. PERIMETER CAVITIES – BETWEEN WINDOW FRAMES AND ROUGH OPENING (R.O.). INSULATE CONTINUOUS AROUND INNER PERIMETER OF WINDOW WITH LOW EXPANSION FOAM OR FIBER TYPE INSULATION. CAUTION: DO NOT DISTORT FRAME BY OVERFILLING OR OVER PACKING. NOTE: AN INSULATED CAVITY IMPROVES THERMAL PERFORMANCE.
8. CAULK THE EXTERIOR PERIMETER TO PROVIDE SEAL BETWEEN WALL AND WINDOW TO ENSURE CONTINUITY OF WEATHER TIGHTNESS. (AIR BARRIER)
9. CAULK AND/OR TAPE INTERIOR PERIMETER TO PROMOTE CONTINUITY OF VAPOR BARRIER TO MINIMIZE RISK OF CONDENSATION WITHIN THE CAVITY & TO MEET TESTED AIR & WATER RESISTANCE LEVELS.
10. MAINTANANCE – WASH GLASS, FRAME, & HARDWARE WITH NON–ABRASIVE CLEANER & WATER. CLEAN & LUBRICATE WITH ONLY SILICONE LUBRICANT ALL HARDWARE & WEATHERSTRIP IMMEDIATELY AFTER WINDOW IS INSTALLED, & EVERY SIX MONTHS MIN. TO MAINTAIN EASE OF OPERATION.

RECOMMENDED MINIMUM ANCHOR LOCATIONS (SCREW, STRAP ANCHOR OR NAILING FIN)

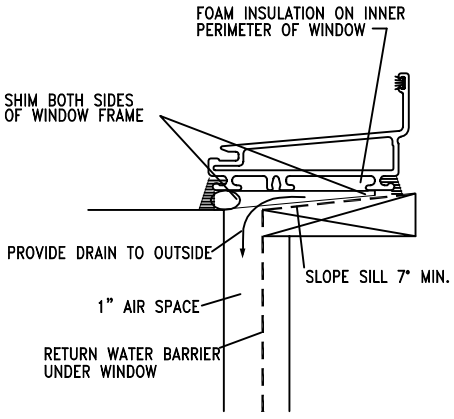



SCREW ANCHORAGE





4) EXAMPLE: WATER MANAGEMENT AT SILL



ITEM.	QTY.	DWG.NO./CAT.NO.	DESCRIPTION	MATERIAL

INLINE FIBERGLASS
30 Constellation Court
Toronto, Ontario M9W 1K1

SHEET 1/1

NO.	REVISION	DATE
1.	K.C.	Dec.06

WINDOW INSTALLATION INSTRUCTION

DR. BY.	R.N.
DATE	Apr.06
SCALE	

850B-000

THERMAL PERFORMANCE VALUES

850B SERIES > SINGLE HUNG(see notes at end)

SINGLE HUNG	U Value	SHGC	Vt	ER
Dual Pane - Low-E / Hard Coat	0.33	0.57	0.59	31
Dual Pane - Low-E / Soft Coat	0.30	0.33	0.56	21
Dual Pane - Low-E 366	0.30	0.22	0.51	15
Triple Pane - Low-E / Hard Coat x 2*	0.23	0.45	0.50	36
Triple Pane - Low-E / Soft Coat x 2*	0.21	0.28	0.45	29

Note: All values have been verified by the NFRC and Energy Star Canada. The reader is cautioned that test results should be used for comparison purposes only. Results are size and installation dependent.

For recommendations as to what glazing configurations are best suited for your application, please feel free to contact us.

For a full listing of thermal performance values, visit www.NFRC.org. All information can be found in the "Certified Products Directory". Please feel free to contact us if any assistance is required.

INLINE also complies with all North American Energy Star zoning requirements.

* Krypton Gas Fill

850B SERIES
SINGLE HUNG VERTICAL SLIDER

TEST REPORT SUMMARY
In compliance to AAMA/ 101/I.S.2/ CSA A440

TEST SIZE	1118mm x 1524mm
	44" x 60"

TEST	REQUIREMENTS		RESULTS	GRADE	
	TEST STANDARD	TEST PRESSURE		AAMA	CSA
Air Tightness	ASTM E 283	75 pa (1.57 psf)	+/- 0.28 $m^3/h/m$ +/- 0.06 cfm/ft^2	A3	A3
Water Tightness	ASTM E 547	700 pa (10.5 psf)	No Leakage	DP 70	B7
Wind Load Resistance	ASTM E 330	5040 pa (105 psf)	No Deformation	DP 70	C5
Series 850B single hung window is rated design pressure 70@ test pressure 323 kph (202 mph).					

Energy Ratings

The Thermal Performance Values shown below, are based on products glazed with 13/16" (20mm) insulating glass units comprising one lite of Low-E glass, clear glass an argon filled cavity, and a double sealed aluminum spacer.

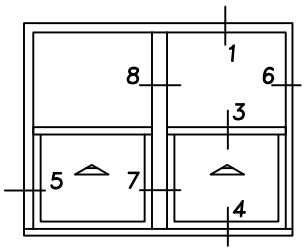
Higher performance may be achieved by using various glass coatings, inert gasses, and/or warm edge spacers.

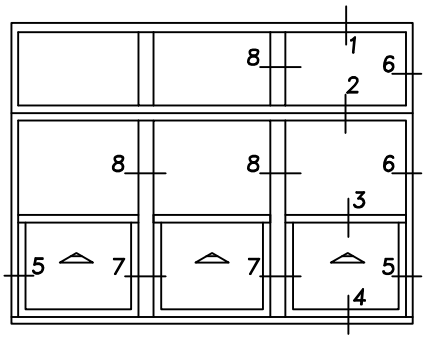
Performance	**CSA 440.2**	**NFRC 100** Residential 36" x 60"	**NFRC 100** Non-Residential 48" x 72"
U-Value Window	2.04 $W/m^3/c$	0.37 Btu	0.36 Btu
SHGC - No Grill	0.50	0.50	0.50
SHGC - With Grill	0.45	0.45	0.46
VLT - No Grill	0.55	0.55	0.58
VLT - With Grill	0.50	0.50	0.52

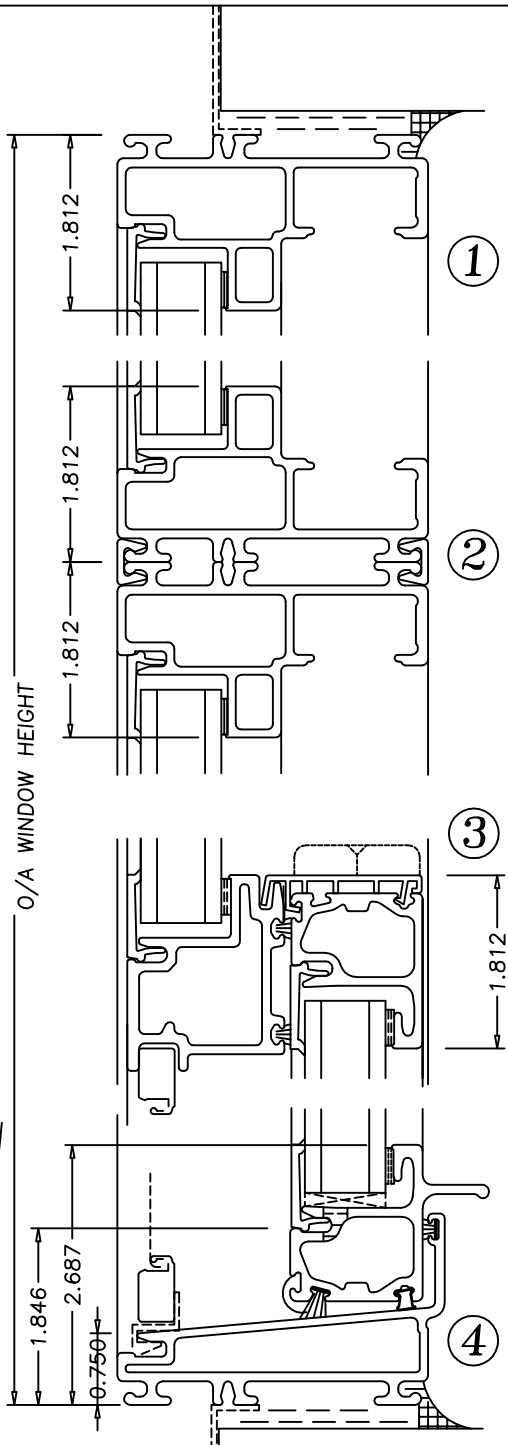
Note: The reader is cautioned that test results should be used for comparison purposes only. Results are size and installation dependent. In-Service performance can be significantly different from those shown. Product tested indicates design potential.

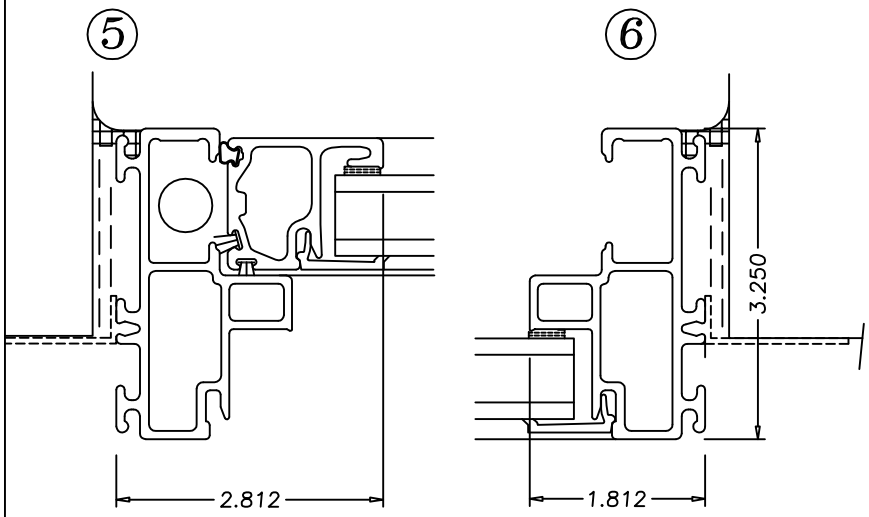
INLINE FIBERGLASS
WINDOWS

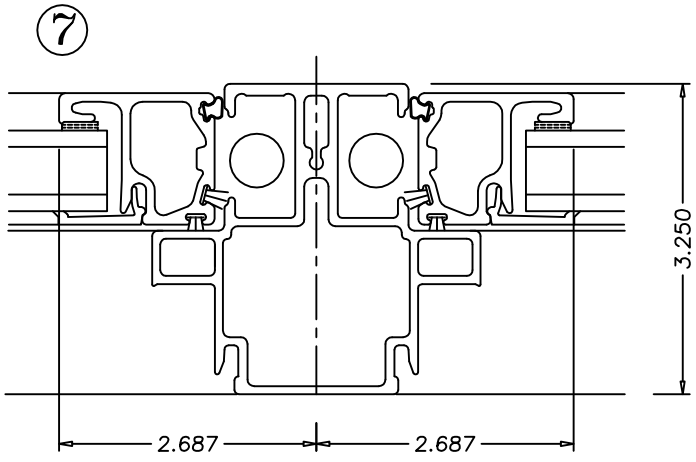
series 850-B
NARROW LINE
SINGLE HUNG
WINDOW

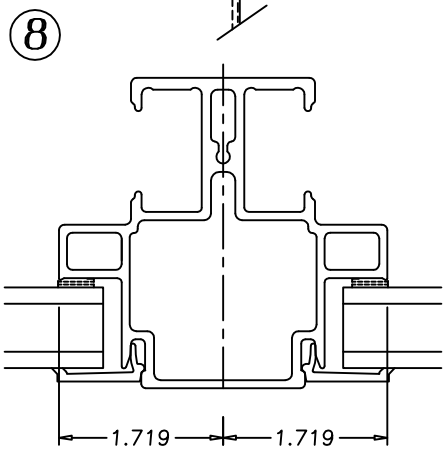












SINGLE HUNG
VERTICLE SLIDING WINDOW

PRODUCT
Shall be 850 Series Fiberglass, Single Hung Window Assemblies, as manufactured by INLINE FIBERGLASS Limited. Frames are 82.5mm (3-1/4") deep and in compliance with AAMA 101/1.S.2/ Rating: H-R 70 and CSA – A440 – A3, B7, C5.

MATERIAL
All frame and sash profiles are made from pultruded fiberglass, having a nominal wall thickness of 2.3mm (0.09."). Non-structural accessory members may be vinyl or aluminum and identified as such.

CONSTRUCTION
Frame and sash corners are connected with molded reinforced polymer components and mechanically secured. Joints are factory sealed and neatly fitted together.

FINISH
All exposed surfaces are coated with durable acrylic urethane top coat with a medium gloss of 17-35. In compliance with AAMA-613. Available in five standard colours. Unlimited custom colours, including split finish.

HARDWARE
Locks: One or two sets of die-cast cam locks with release latch and keepers. Two spiral sash balances for each sash (optional are stainless steel constant force balances), two pairs of tilt latch assemblies, two pairs of pivot bars, and integral lift pull or add-on lift handles. Sash opening restrictors are optional extra. Hardware is installed with fasteners into patented back-up reinforcing clips.

WEATHER-STRIPPING
Windows are designed as a "Pressure Equalized Rain Screen System", with pile, Q-Lon gaskets and dust plugs to provide a positive air and vapor seal.

GLASS
All windows are glazed with 20mm (13/16") insulating glass units. Glass thickness shall be in accordance with applicable Building Codes, but not less than 3mm (1/8"). Inline recommends the use of double-sealed insulating glass units certified by IGMAC or SIGMA. The full range of glazing options are available including: colonial grilles, low conductivity spacers, inert gas fills, and glazings to reduce heat loss, solar heat gain, and visible light transmission.

GLAZING METHOD
Laid-in glazing using polyethylene closed cell adhesive tape on the interior and a fiberglass glass stop locked-in from the exterior provides a secure and positive seal for the glass.

INSECT SCREENS
Half-height, roll-formed aluminum frame with friction fit corner keys. Screen mesh (Fiberglass or Aluminum) retained by vinyl spline.

INSTALLATION
Shall be performed by experienced installers in accordance with manufacturer's instructions and CSA-A440.4. Window shall be plumb and square after installation is complete and sealed to both interior and exterior walls with a high quality sealant around the perimeter of the frame. If perimeter cavity is to be foamed, additional anchorage may be required to prevent bowing. It shall be the responsibility of the installers to make all necessary final adjustments to ensure normal and smooth operation.

MAINTENANCE
To maintain performance and ease of operation, clean glass, frames and fly screen, vacuum weather stripping and sill, lubricate hardware and weather-stripping with only silicone spray, a minimum of every six months.

- Due to constant product improvements, Inline reserves the right to change information herein without notice.