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Single Hung, Fixed, and Horizontal Slider

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Project: River Rock Casino Resort, British Columbia, Canada

Due to the diversity in state/provincial, local, and federal laws and codes that govern the design and application of architectural products, it is the responsibility of the individual architect, owner, and installer to ensure that products selected for use on projects comply with all applicable building codes and laws. U.S. Aluminum exercises no control over the use or application of its products, glazing materials, and operating hardware, and assumes no responsibility thereof.

The rapidly changing technology within the architectural aluminum products industry demands that U.S. Aluminum reserve the right to revise, discontinue or change any product line, specification or electronic media without prior written notice.

NOTE: Dimensions in parentheses () are millimeters unless otherwise noted.

- Other metric units shown in this publication are:
- | | |
|------------------|------------------|
| m - meter | Kg - kilogram |
| Pa - pascal | KPa - kilopascal |
| MPa - megapascal | |

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WINDOWS



Specifications

Single Hung, Fixed, and Sliding Windows

SECTION 08 51 13 ALUMINUM WINDOWS

- Series 8000
- Series 8100
- Series 8200

QUALITY ASSURANCE

Drawings and specifications are based on Series 8000 Single Hung, 8100 Fixed, or 8200 Horizontal Sliding (*Specify*) Thermal CW60 Windows as manufactured by U.S. Aluminum. Whenever substitute products are to be considered, supporting technical literature, samples, drawings, and performance data must be submitted 10 days prior to bid in order to make a valid comparison of the products involved. Test reports certified by an AAMA independent test laboratory must be made available upon request.

PART 1 GENERAL

1.01 Work Included

A. Furnish and install aluminum architectural windows complete with hardware and related components as shown on drawings and specified in this section.

Specify glass and glazing in this section if window assemblies are to be glazed by the window manufacturer. If glazing is to be done by a different contractor, glass and glazing should be specified in Section 08 80 00.

B. Glass and Glazing

1. All units shall be factory glazed.
OR
1. Reference Section 08 80 00 for Glass and Glazing.

List work and materials related to this section but specified in other sections.

1.02 Related Work

Section 08 40 00 - Entrances and Storefronts
Section 08 44 00 - Glazed Curtain Walls
Section 08 50 00 - Windows

1.03 Testing and Performance Requirements

A. Test Units

1. Air, water, and structural test unit shall conform to requirements set

forth in ANSI/AAMA/NWWDA 101 I.S. 2-97 and AAMA 910-93 or CSA A440.

2. Thermal test unit sizes shall be 47-1/4" x 59" (1200 x 1500) for Series 8000 and 8100, 59" x 47-1/4" (1500 x 1200) for Series 8200. Unit shall consist of a single hung, fixed or horizontal sliding window.

B. Test Procedures and Performances

1. Windows shall conform to all AAMA/ANSI/NWWDA-101 I.S. 2-97 and AAMA 910-93 or CSA A440 requirements for the window type referenced in 1.01.B. In addition, the following specific performance requirements shall be met.
 2. Air Infiltration Test - With ventilators closed and locked, test unit in accordance with ASTM E 283-91 at a static air pressure difference of 6.24 psf. Air infiltration shall not exceed .30 cfm per foot of crack.
 3. Water Resistance Test - With ventilators closed and locked, test unit in accordance with ASTM E 331-96/ASTM E 547 at a static air pressure difference of 12 psf. There shall be no uncontrolled water leakage.
 4. Uniform Load Deflection Test - With ventilators closed and locked, test unit in accordance with ASTM E 330-97 at a static air pressure difference of 90 psf positive and negative pressure. No member shall deflect over L/175 of its span.
 5. Condensation Resistance Test (CRF) - With ventilators closed and locked, test unit in accordance with AAMA 1503. Condensation Resistance Factor (CRF) shall not be less than 49 for Series 8100 and 8200. Not less than 50 for Series 8000.
 6. Thermal Transmittance Test (Conductive U-Value) - With ventilators closed and locked, test unit in accordance with NFRC 100 and AAMA 1503. Conductive thermal transmittance

(U-Value) for Series 8000 and 8200 Windows shall have a range between 0.35 to 0.56 BTU/hr/ft²/°F and Series 8100 Windows shall have a range between 0.33 to 0.56 BTU/hr/ft²/°F.

7. AAMA CW60 Rating

Testing Procedures -

- AAMA/WDMA/CSA 101/I.S.2/A440-8 - Laboratory Performance Testing.
- AAMA 503-08 - Newly Installed Fenestration Products.
- AAMA 511-08 - Installed Fenestration Products After 6 Months.

1.04 Quality Assurance

- A. Provide test reports from AAMA accredited laboratories certifying the performance as specified in 1.05 or 11.15 of CSA A440.
- B. Test reports shall be accompanied by the window manufacturer's letter of certification, stating the tested window meets or exceeds the referenced criteria for the appropriate AAMA/NWWDA 101/I.S.2-97 and AAMA 910-93 or CSA A440 window type.

1.05 Submittals

- A. Contractor shall submit shop drawings, finish samples, test reports, and warranties.

1.06 Warranties

- A. Total Window System
 1. The responsible contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total window installation which includes that of the windows, hardware, glass (including insulating units), glazing, anchorage and setting system, sealing, flashing, etc., as it relates to air, water, and structural adequacy as called for in the specifications and approved shop drawings.

Specifications

SECTION 08 51 13 ALUMINUM WINDOWS

Single Hung, Fixed, and Sliding Windows

- Series 8000
- Series 8100
- Series 8200

PART 2 PRODUCTS

2.01 Materials

A. Aluminum

1. Extruded aluminum shall be 6063-T5 alloy and tempered.

B. Hardware

1. Series 8000 and 8200 Windows have spring loaded self-locking latches as supplied by U.S. Aluminum.

C. Weatherstrip

1. For Series 8000 and 8200 Windows weatherstrip shall be fin seal or equal. For Series 8100 Windows all weatherstrip shall be E.P.D.M.

D. Thermal Barrier

1. Barrier material shall be poured-in-place two part polyurethane. To ensure that composite strength remains unaltered during thermal cycling, a mechanical bond between the aluminum and the thermal filling shall be created by mechanically abrading the extrusion thermal cavity prior to filling with the polyurethane polymer. A non-structural thermal barrier is unacceptable.
2. Specified hardware shall not bridge the thermal barrier.

E. Glass

1. Insulating glass shall be () as manufactured by () consisting of () exterior, () air spacer, and () interior.
OR
1. Glass shall be 1/4" (6) monolithic.

2.02 Fabrication

A. General

1. All primary aluminum frame, extrusions or vent extrusions shall have a minimum wall thickness of .062 (1.57)
2. Depth of frame 4-1/2" (114.3) for 1" (25) glazing.

B. Frame - Frame components shall be mechanically fastened.

C. Ventilator (Series 8000 and 8200)

1. All vent extrusions shall be notched .

D. Screens (Series 8000 and 8200)

1. Screen frames shall have springs locking the screen in place.
2. Screen mesh shall be aluminum or fiberglass. (if applicable)

E. Glazing - All units shall be either shop or field glazed.

F. Finish

All exposed framing surfaces shall be free of scratches and other serious blemishes. Aluminum extrusions shall be given a caustic etch followed by an anodic oxide treatment to obtain... *(Specify one of the following)*

- ____ #11 Clear anodic coating
- ____ #22 Dark Bronze anodic coating
- ____ #33 Black anodic coating

A Fluoropolymer paint coating conforming with the requirements of AAMA 2605. Color shall be *(Specify a U.S. Aluminum standard color)*.

PART 3 EXECUTION

3.01 Inspection

A. Job Conditions

1. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface, and are in accordance with approved shop drawings.

3.02 Installation

A. Use only skilled tradesmen with work done in accordance with approved shop drawings and specifications.

B. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

C. Adjust windows for proper operation after installation.

D. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters.

3.03 Protection and Cleaning

A. After completion of window installation, windows shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, etc. Protection from this point shall be the responsibility of the general contractor.

WINDOWS

Special Features

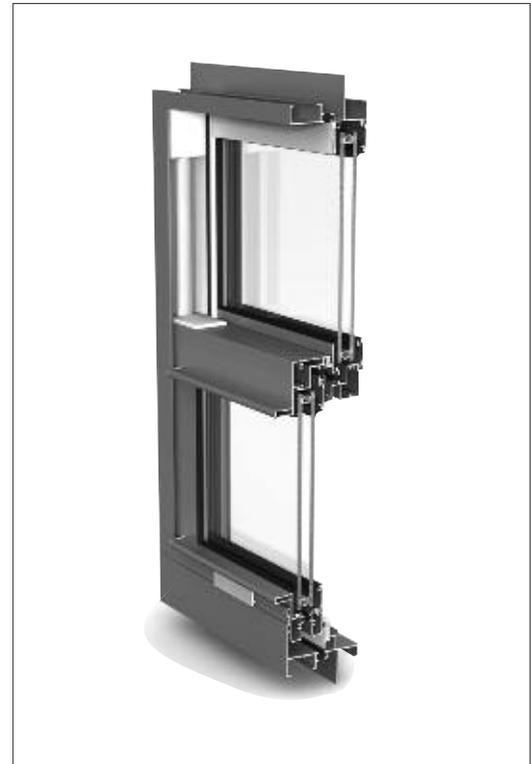
Single Hung Window • Series 8000

The Series 8000 Single Hung Window uses a Class 5 Balance for smooth operation. The 4-1/2" (114) deep frame is designed to match typical building conditions, including our entrances and storefronts. An efficient thermally insulated frame accepts 1" (25) glazing, with extruded pulls at the interlock and bottom rail. The window features a self-locking latch.

- Tested to AAMA CW60
- Accepts 1" (25) Glazing
- Thermally Insulated-NFRC Certified
- U-Factors as Low as 0.34
- 4-1/2" (114) Deep Frame to Match Typical Building Conditions
- Choice of Block or Fin Frame
- Class 5 Balance for Ease of Operation
- Accessories Such as Screens, Mulling Bars, Subsills, Head and Jamb Channels are Available
- Available in an Array of Architectural Coatings and Anodized Finishes
- Complemented by the **Series 8200** Horizontal Sliding and **Series 8100** Fixed Windows
- Made in the U.S.A.



Single Hung Windows



WINDOWS

Special Features

Fixed Window • Series 8100

The Series 8100 Fixed Window has a 4-1/2" (114) deep frame designed to match typical building conditions, including our entrances and storefronts. An efficient thermally insulated frame accepts 1" (25) glazing. Available in an array of architectural coatings and anodized finishes.

- Tested to AAMA CW60
- Accepts 1" (25) Glazing
- Thermally Insulated-NFRC Certified
- U-Factors as Low as 0.34
- 4-1/2" (114) Deep Frame to Match Typical Building Conditions
- Choice of Block or Fin Frame
- Accessories Such as Mulling Bars, Subsills, Head and Jamb Channels are Available
- Available in an Array of Architectural Coatings and Anodized Finishes
- Made in the U.S.A.



Fixed Window

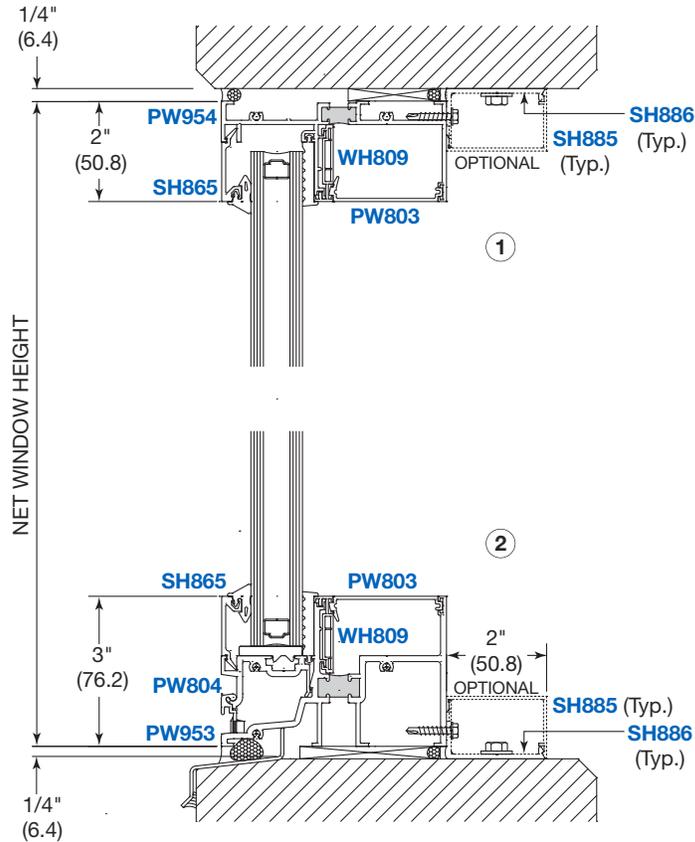


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Typical Details

Fixed Window
• Series 8100

FOR 1" (25) GLAZING



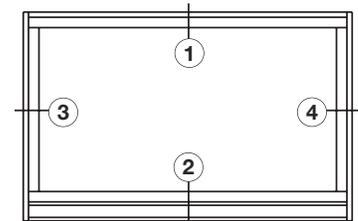
Meets or Exceeds Specifications:

- AAMA/WDMA/CSA 101/1.S.2/A 440 -08
 - ASTM E 283-04
 - ASTM E 330-02
 - ASTM E 331-00
 - AAMA 1503
- NFRC - NFRC 100-2004
 - NFRC 200-2004
 - NFRC 500-2004

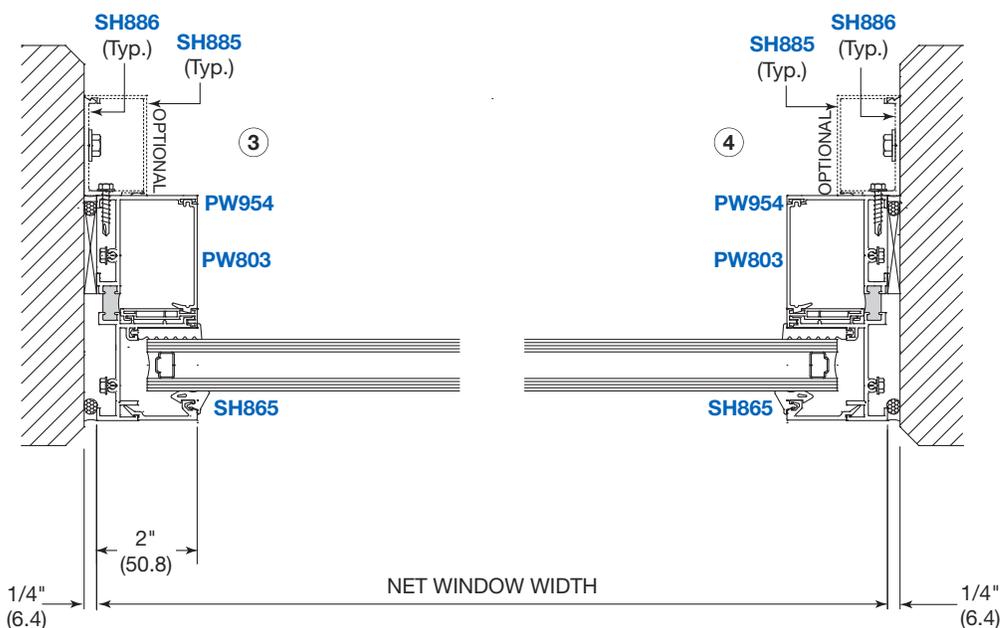
Block Frame
Installation Method Shown

Maximum Frame Size
96" x 60" (2438 x 1524)

A complete set of details in DWG format is available at usalum.com



TYPICAL ELEVATION



NOT TO SCALE

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WINDOWS

Special Features

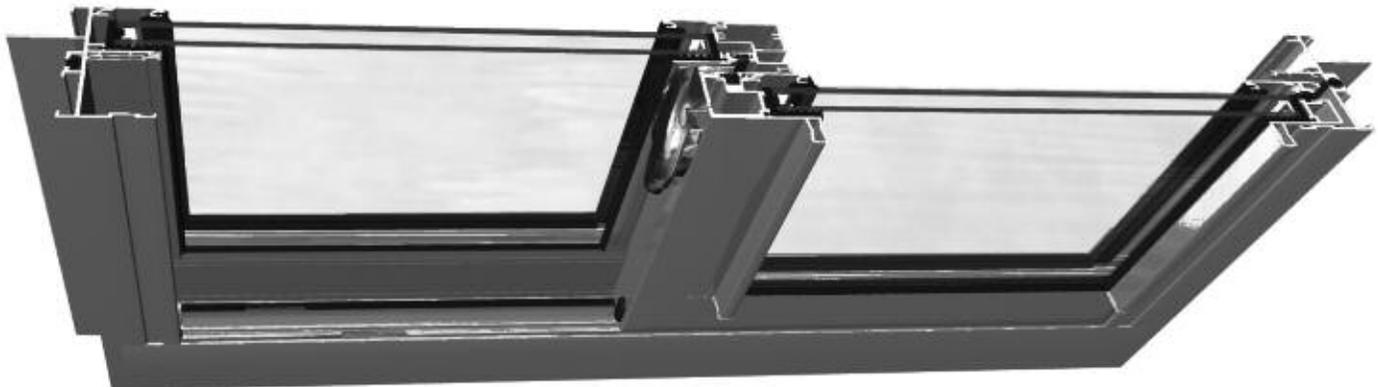
Horizontal Sliding Window • Series 8200

The Series 8200 Horizontal Sliding Window offers that rare combination of smooth operation, durability, and toughness. It has a 4-1/2" (114) deep frame designed to match typical building conditions, including our entrances and storefronts. An efficient thermally insulated frame accepts 1" (25) glazing. Available in an array of architectural coatings and anodized finishes.

- Tested to AAMA CW60
- Accepts 1" (25) Glazing
- Thermally Insulated-NFRC Certified
- U-Factors as Low as 0.34
- 4-1/2" (114) Deep Frame to Match Typical Building Conditions
- Choice of Block or Fin Frame
- Dry Glazed
- Self Locking Latch and Tandem Adjustable Rollers for Ease of Operation
- Accessories Such as Screens, Mulling Bars, Subsills, Head and Jamb Channels are Available
- Available in an Array of Architectural Coatings and Anodized Finishes
- Made in the U.S.A.



Horizontal Sliding Windows

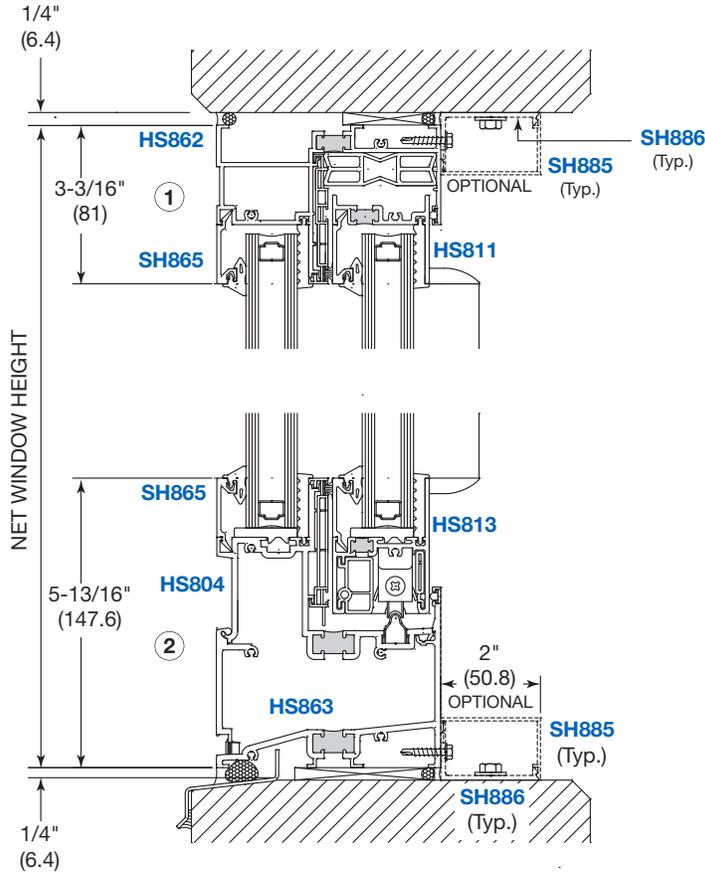


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Typical Details

Horizontal Sliding Window
• Series 8200

FOR 1" (25) GLAZING



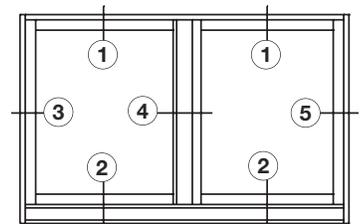
Meets or Exceeds Specifications:

- AAMA/WDMA/CSA 101/1.S.2/A 440 -08
 - ASTM E 283-04
 - ASTM E 330-02
 - ASTM E 331-00
 - AAMA 1503
- NFRC - NFRC 100-2004
 - NFRC 200-2004
 - NFRC 500-2004

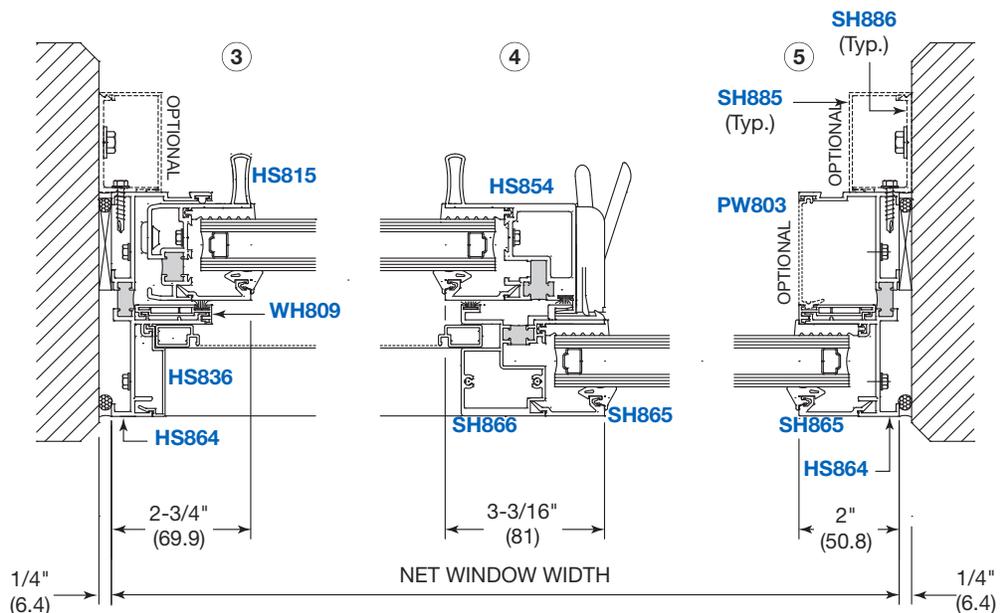
Block Frame
Installation Method Shown

Maximum Frame Size
96" x 60" (2438 x 1524)

A complete set of details
in DWG format is available
at usalum.com



TYPICAL ELEVATION



NOT TO SCALE

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WINDOWS

Accessories

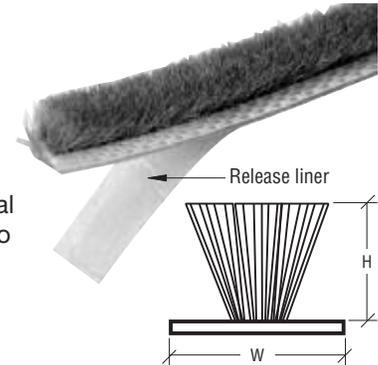
ADHESIVE-BACKED WINDO-PILE

- Reduces Heat and Energy Loss Around Windows and Doors
- Adhesive Backing Allows Press-On Installation
- Seals Effectively Without Affecting Operation



Effectively seals vertical hung and horizontal sliding windows. Simply press Windo-Pile into the window sash channels. Doesn't interfere with normal window operation.

Weatherstripping

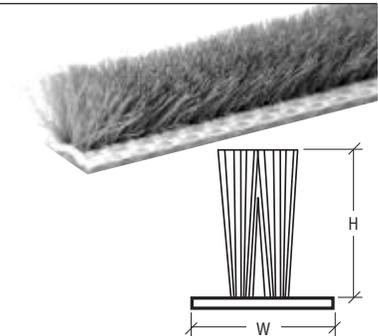


PART NO.	PILE HEIGHT (H)	BACK WIDTH (W)	ROLL LENGTH
A71320C	.200 (5)	.270 (6.8)	100' (30.5 m)
A71320B	.200 (5)	.270 (6.8)	700' (213.3 m)

Minimum order: 1 roll. 100 foot rolls can be combined with all other 100 foot rolls of Windo-Pile for quantity pricing. Bulk rolls can be combined with all other bulk rolls of Windo-Pile for quantity pricing.

WINDO-PILE

- Replaces Old or Worn-Out Pile Weatherstripping in Doors or Windows
- Water-Resistant Woven Pile is Unaffected by Adverse Weather
- Quick and Simple Installation
- Available in Two Pile Densities: Medium and High



MEDIUM DENSITY WINDO-PILE BACK WIDTH .187 (4.7)

100 FOOT ROLL PART NO.	PILE HEIGHT (H)	BULK ROLL PART NO.	BULK ROLL LENGTH
A11320C	.200 (5)	A11320B	1100' (335.3 m)
A11325C	.250 (6.3)	A11325B	900' (274.3 m)
A11330C	.300 (7.6)	A11330B	700' (213.4 m)
A11335C	.350 (8.9)	A11335B	600' (182.9 m)

Minimum order: 1 roll. 100 foot rolls can be combined with all other 100 foot rolls of Windo-Pile for quantity pricing. Bulk rolls can be combined with all other bulk rolls of Windo-Pile for quantity pricing.

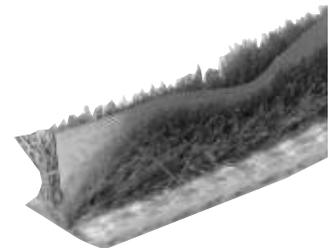
HIGH DENSITY WINDO-PILE BACK WIDTH .270 (6.8)

100 FOOT ROLL PART NO.	PILE HEIGHT (H)	BULK ROLL PART NO.	BULK ROLL LENGTH
A11420C	.200 (5)	A11420B	800' (243.8 m)
A11425C	.250 (6.3)	A11425B	600' (182.9 m)
A11430C	.300 (7.6)	A11430B	400' (121.9 m)
A11435C	.350 (8.9)	A11435B	400' (121.9 m)

Minimum order: 1 roll. 100 foot rolls can be combined with all other 100 foot rolls of Windo-Pile for quantity pricing. Bulk rolls can be combined with all other bulk rolls of Windo-Pile for quantity pricing.

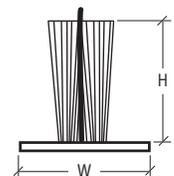
FINNED WEATHERSTRIP

- Unique Center Fin Stops Air, Water, and Dust From Infiltrating Joints Around Windows and Doors
- Made to Replace Most Existing Pile Weatherstrips
- Resists Mold, Mildew, and Corrosion



PART NO.	PILE HEIGHT (H)	BACK WIDTH (W)	ROLL LENGTH
FS7716C	.160 (4)	.187 (4.7)	100' (30.5 m)
FS77163M	.160 (4)	.187 (4.7)	3000' (914.4 m)

Minimum order: 1 roll. 100 foot rolls can be combined with all other 100 foot rolls of Windo-Pile for quantity pricing. Bulk rolls can be combined with all other bulk rolls of Windo-Pile for quantity pricing.



WINDOWS

Stain Removers

Accessories

BIO-CLEAN WATER STAIN REMOVER

- Effectively Removes Water and Mineral Stains, Rust, Tree Sap, Paint Overspray, Soap Scum, and Mildew From Glass and Other Surfaces
- Works Great On: Windows, Glass Surfaces, Tile, Fiberglass, Chrome, Anodized Brass and Aluminum, and Stainless Steel



Bio-Clean is a professional strength cleaner recommended by both glazing contractors and professional window cleaning companies. **NOTE:** Do not use on surfaces that can be harmed by the use of a mild abrasive.

•Removes Stage One Corrosion Quickly

Stage One Corrosion is defined as glass with light corrosion, and little or no damage to the glass. Stage Two Corrosion occurs when the deposits are no longer on the surface of the glass, but have started to break down the molecular structure of the glass, leaving an etched or white haze on the glass after the stain has been removed. CRL Bio-Clean Water Stain Remover will not repair glass with Stage Two Corrosion.

PART NO.	CONTENTS	QTY/CASE
WSR1	16 Fl. Oz. (473 ml)	12
WSR1P	5 Pouches	1

Minimum order: 1 each of WSR1 and 1 pack of WSR1P.

WATER SPOT REMOVER

- Solves the Problem of Water Spotting From Sprinklers, Hard Water Sources, and Exposure to Acid Rain
- Removes Alkaline Residue, Chemical and Mineral Deposits From Uncoated Clear and Float Glass Surfaces (Typical Stage One Corrosion)



PART NO.	CONTENTS	QTY/CASE
C2020	1 Gallon (3.785 l)	4
C2030	1 Quart (946 ml)	12

Minimum order: 1 each.

Water Spot Remover is specifically formulated for use by professional window cleaning contractors and glazing professionals. It is designed to remove any residue left on glass which may alter the optical clarity, and cannot be cleaned using standard methods.

"SPARKLE" CLEANER AND STAIN REMOVER

- Cleans Light Water Stains From Glass Caused by Weather, Sea Air, and Pollution
- A Longtime Favorite

PART NO.	CONTENTS	QTY/CASE
SP101	8 Fl. Oz. (236 ml)	12

Minimum order: 1 each.

"Sparkle" Cleaner does those glass cleaning jobs too tough for spray-on cleaners. It removes light water spots and stains in glass caused by weather, sea air, or pollution. Wipe on with a damp cloth or paper towel, rub stained areas, then wipe off.



A-MAZ WATER STAIN REMOVER

- Removes the Toughest Stains
- Contains No Acids, Bleach, or Chlorides
- Includes Nylon Scrub Pad



A-Maz Water Stain Remover removes the toughest stains on glass, chrome, porcelain, fiberglass, metal, tile - water stains, mineral deposits, and sealant stains.

PART NO.	CONTENTS	QTY/CASE
3379520	14 Fl. Oz. (396 ml)	6

Minimum order: 1 each.

WINDOWS

Cleaning Products and Supplies

One of our fastest growing product lines has been our Cleaning Products. We have always specialized in glass cleaning products with the industry favorite being our 1973 Glass Cleaner. And because of our alliance with Sprayway, we are able to offer you even more high quality glass cleaning products, as well as other specialty products for all types of cleaning needs. Available in aerosol and liquid forms, they tackle your toughest applications from cleaning glass, plastics, and metal, to removing graffiti, greases, oils, sealants, adhesives, and even cleaning your hands.



Glass Cleaners

- Ammoniated Aerosol Formulas
- Non-Ammoniated Aerosol Formulas
- Private and Logo Labels
- Glass Washing Machine Detergents



Concentrated Glass Cleaners, Stain Removers, and Protectants

- Concentrated Liquid Glass Cleaner
- Ready-Mix Glass and Mirror Cleaners
- Stain Removers
- Surface Protectants



Plastic Cleaners

- Aerosol Plastic Cleaners
- Liquid Plastic Cleaners



All Purpose Cleaners

- Multi-Surface Cleaners
- Stone Countertop Cleaners
- Anti-Fog Spray and Dust Remover
- Solvent Adhesive Removers and Cleaners



Metal and General Purpose Cleaners

- Stainless Steel Polish and Cleaners
- Armor All® Protectant
- Metal Cleaners
- Rust Treatment



Wipes, Towels, and Rags

- Lint Free Shop Wipes
- Scott Paper Towel Rolls
- Kimberly-Clark® Towels
- Micro-Fiber Wipes
- Box of Rags



Hand Cleaners

- Organic Formula
- Orange Formula With Grit
- Wipes in a Bucket With Urethane and Grease Removers



Cleaning Accessories

- Razor Blades and Scrapers
- Coveralls and Shoe Covers
- Steel Wool and Scotch Brite® Pads
- Vehicle Interior Protection



Window Washing Tools

- Squeegees
- Extension Poles
- Window Cleaning Soaps

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