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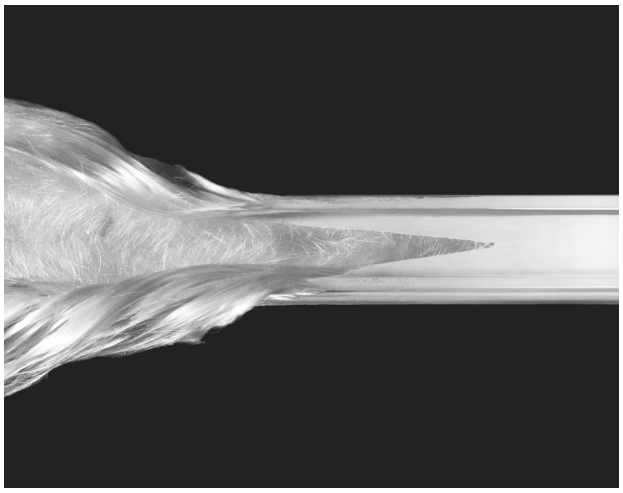
3000 SERIES FIBERGLASS

Introduction to Fiberglass

3000 SERIES FIBERGLASS



— Fiberglass itself is nothing new. It's been floating boats and adding strength to ladders for years. But until recently, the complex profiles required for window and door designs have been impossible to attain with fiberglass. Milgard's research and design team faced this challenge and engineered a window and door system that's impervious to water, cold, heat, insects, salt air and ultraviolet rays. The end result: efficient windows and doors that maintain their beauty in every season, in any climate.

CHOOSE FROM TWO PRODUCT SERIES

— Milgard gives you two distinctive choices when it comes to fiberglass windows and doors: **Ultra™** and **WoodClad™**. Both series utilize the same core fiberglass frame profile – the difference comes from the interior surface treatment.

THE ULTRA SERIES

— Ultra Series fiberglass windows and doors create a striking similarity to classic wood window profiles, with a freshly painted white finish look to the interior side. Other standard interior colors are available. Outside, there are several standard colors to choose from. Custom color inquiries are accepted for quotation. In the field, fiberglass readily accepts quality, 100% acrylic paints for a true custom look – at time of installation, or anytime in the future. As for window grid treatments, there are different grid application styles available to choose from – with numerous patterns possible.

THE WOODCLAD SERIES

— **WoodClad** Series fiberglass windows and doors provide the timeless, elegant look of real wood to the interior. Outside, where you don't want wood to fight the elements, painted fiberglass provides outstanding weather resistance. Inside, the beauty of furniture-grade wood veneer projects an elegance desired in both traditional and modern project styles. Field stain or clear seal to your client's choice. The real wood veneer is applied through a process that permanently bonds to the fiberglass substrate with specially-formulated epoxies. The look from the interior leaves you with no visual doubt that the windows and doors are from solid wood, yet the truth reveals a heart of fiberglass with tremendous strength and durability characteristics not found in solid wood or vinyl profiles. Outside, there are several standard colors to choose from. Custom color inquiries are accepted for quotation.

THE MILGARD FIBERGLASS ARCHITECTURAL MANUAL

— Milgard provides both the **Ultra** Series and **WoodClad** Series cross-sectional drawing details for each window and door type. The fiberglass profiles are the same for each series – with the drawings noting the interior surfaces receiving the wood veneer with a thick, bold line.

Milgard Fiberglass – A Quick Feature/Benefit Snapshot

3000 SERIES FIBERGLASS

— **Fiberglass:** A structural material with superior strength and thermal performance characteristics, ideal for intricate window and door frame profiles. So durable, we use diamond-tipped saw blades to cut our frame stock. Frame stock is produced using a process known as pultrusion. Glass rovings and mats are pulled at tremendous forces through a resin bath and a series of dies. These materials combine and catalyze to provide unparalleled tensile and torsional strength.

- ❑ Up to 3 times stronger than wood; up to 8 times stronger than vinyl.
- ❑ Minimal thermal expansion/contraction across large temperature extremes – matches movement of glass, relieving virtually all stresses on the glazing unit to protect glazing seals and ensure smooth operation.
- ❑ Dark colors do NOT cause adverse frame movement – perfect for projects calling for even black exterior frame color.
- ❑ Wet-glazed silicone sealant glazing method for superior, permanent weather seal.
- ❑ No swelling, cracking, binding, twisting or rotting like wood.
- ❑ Milgard EdgeGardMax™ insulating glass units come standard on all fiberglass windows and doors.
- ❑ 7/8" thick glazing unit – ASTM E-774-81 Class A rating – sealed with long-life butyl sealant.
- ❑ Every order is custom built – at standard lead times. Perfect for replacement applications, with dimensions accepted down to 1/16" increments.
- ❑ Incredible frame strength provides light commercial and commercial structural ratings – making fiberglass windows and doors suitable in many commercial project applications.
- ❑ Multiple hardware finishes to choose from in both the window and door line.
- ❑ Window and window/door configurations are factory mulled for ease of field installation – large sizes ship open for field glazing where weight and safety is a factor.
- ❑ Numerous glass options available – including tempered, obscures, tints, laminated, etc.
- ❑ All operating hardware utilizes top-quality components and fasteners.
- ❑ Fiberglass doors use multi-point locking hardware to provide enhanced security.

WoodClad™ Fiberglass Windows – Features and Benefits

3000 SERIES FIBERGLASS

IT ALL BEGINS WITH WOOD

— Every Milgard WoodClad Fiberglass Window and Patio Door interior reveal and liner is premium solid wood or wood veneer.

OR, CHOOSE A FRESH, WHITE PAINTED INTERIOR LOOK

— Milgard Ultra™ Fiberglass Windows and Patio Doors reveal a fresh, white painted interior. Other standard interior colors are available. Jamb extensions are also an optional feature on the product line.

FREEDOM FROM MAINTENANCE

— Milgard **WoodClad** and **Ultra** Windows and Patio Doors face the elements with a sturdy pultruded fiberglass frame that won't warp, rot, swell, peel or mildew. The frame makes your windows stronger and more resistant to impact and settling. It's strong like aluminum, energy efficient as wood and low maintenance as vinyl. Every operating window also comes with its own easy-to-remove screen.

ENERGY EFFICIENT GLAZING

— 7/8" thick dual glazing unit keeps the weather outside and comfort inside. For even greater energy efficiency, all Milgard fiberglass windows and doors come standard with Milgard's EdgeGardMax™ insulating glass units. You can select optional argon gas injected between the panes. Other glazing options include tempered, obscure or tinted glass.

DESIGN UNLIMITED

— Begin with a wide array of basic window and patio door sizes, styles and proportions – both custom and standard. Then combine them to make the ultimate window and door statement in your home. Add optional window and door grids in any of several styles. We'll also custom-manufacture windows and patio doors to fit most any wall thickness, or to fit an existing opening for remodeling.

SMOOTH OPERATORS

— Milgard fiberglass windows and patio doors are built to last. They glide open easily, they're convenient to clean and they'll operate as well years from now as they do today.

THERE WHEN YOU NEED THEM

— Milgard is one of the largest window and patio door manufacturers in the nation. With over a dozen facilities serving the U.S., we are never far away. We can build and ship your windows and doors to you when you need them. All **WoodClad** and **Ultra** products arrive clean and undamaged because we protect them with stretch-wrap and protective packing before they ever leave our factories.

— Contact your Milgard representative for test data on all of our Milgard window and door products.

— Call 1-800-MILGARD, or go to our Website at www.milgard.com for the location of your nearest dealer or for more information.

Milgard WoodClad™ Series Fiberglass Windows - 3-Part Specification

3000 SERIES FIBERGLASS

GENERAL NOTES TO SPECIFIER:

THIS SPECIFICATION SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS IN THE PREPARATION OF PROJECT OR OFFICE MASTER SPECIFICATIONS. IT FOLLOWS GUIDELINES ESTABLISHED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE, AND THEREFORE MAY BE USED WITH MOST MASTER SPECIFICATION SYSTEMS WITH MINOR EDITING.

EDIT CAREFULLY TO SUIT PROJECT REQUIREMENTS. MODIFY AS NECESSARY AND DELETE ITEMS THAT ARE NOT APPLICABLE. VERIFY THAT REFERENCED SECTION NUMBERS AND TITLES ARE CORRECT. (NUMBERS AND TITLES REFERENCED ARE BASED ON MASTERFORMAT, 2004 EDITION).

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING 01 25 13 PRODUCT SUBSTITUTION PROCEDURES, SECTIONS 01 33 00 SUBMITTAL PROCEDURES, 01 62 00 PRODUCT OPTIONS, 01 66 00 PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01 74 00 CLEANING AND WASTE MANAGEMENT, 01 77 00 CLOSEOUT PROCEDURES, AND 01 78 00 CLOSEOUT SUBMITTALS. CLOSE COORDINATION WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN THESE SECTIONS, ADDITIONAL INFORMATION SHOULD BE INCLUDED UNDER THE APPROPRIATE ARTICLES.

THIS IS AN OPEN PROPRIETARY SPECIFICATION ALLOWING USERS THE OPTION OF APPROVING OTHER MANUFACTURERS THAT COMPLY WITH THE CRITERIA SPECIFIED HEREIN.

NOTES TO THE SPECIFIER ARE CONTAINED IN BOXES AND SHOULD BE DELETED FROM FINAL COPY.

OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G. [35] [40] [45]. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS.

ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED BLANK SPACES, E.G. _____ .

OPTIONAL PARAGRAPHS REQUIRING SELECTION OF ONE OF THE OPTIONS ARE SEPARATED BY “OR” WITHIN A BOX, E.G.

OR

BOLD FACE TYPE IDENTIFIES OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE INCLUDED OR DELETED DEPENDING ON PROJECT REQUIREMENTS. CONVERT THE BOLD FACE TYPE TO REGULAR TYPE WHEN INCLUDING THESE PARAGRAPHS OR FEATURES.

REVISE FOOTER TO SUIT PROJECT/OFFICE REQUIREMENTS.

ELECTRONIC VERSIONS OF THIS SPECIFICATION UTILIZE AUTOMATIC PARAGRAPH NUMBERING.

WHEN EDITING IS COMPLETE, DELETE ALL TEXT ON THIS PAGE, THEN REMOVE THE SECTION BREAK AT THE TOP OF THE NEXT PAGE TO REMOVE THIS PAGE FROM THE DOCUMENT.

Milgard WoodClad™ Series Fiberglass Windows - 3-Part Specification

3000 SERIES FIBERGLASS

SECTION 08 54 13

FIBERGLASS WINDOWS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Fiberglass windows with painted exterior and wood veneer interior finish of the following type(s):
   1. **Horizontal sliding windows.**
   2. **Single-hung windows.**
   3. **Double-hung tilt windows.**
   4. **Casement windows.**
   5. **Awning windows.**
   6. **Picture windows.**
   7. **Radius windows.**
   8. **Bay windows.**
   9. **Bow windows.**

B. Related Sections:

INSERT APPROPRIATE SECTION NUMBERS AND TITLES BELOW FOR DOOR FLASHING, INSTALLATION SEALANT AND FINISHING OF INTERIOR WOOD VENEER SURFACES. WARRANTY REQUIRES THAT INTERIOR VENEERED SURFACES BE FINISH COATED.

   1. __ __ __ - _____.
   2. __ __ __ - _____.
   3. **08 16 13 - Fiberglass Doors (Swing).**
   4. **08 16 73 - Sliding Composite Doors**
   5. __ __ __- _____**. Finishing of interior wood veneer surfaces.**

INCLUDE APPROPRIATE LANGUAGE BELOW IF PRODUCTS SPECIFIED IN THIS SECTION ARE TO BE BID AS ALTERNATES. OTHERWISE DELETE FOLLOWING PARAGRAPH.

C. Alternates:
   1. Reference Section 01 23 00 – Alternates.

1.02 SUBMITTALS

A. Reference Section 01 33 00 – Submittal Procedures; submit following items:
   1. Product Data.
   2. Shop Drawings: Include window schedule, window elevations, sections and details, and multiple window assembly details.
   3. Samples:
      a. Color Samples: Minimum 1x4 inch (25x100 mm) paint color chips on fiberglass substrate.
      b. Wood Veneer Samples: Minimum 1x4 inch (25x100 mm) veneer on fiberglass substrate.
      c. Glass, showing specified tint color.
   4. Quality Assurance/Control Submittals:
      a. Qualifications: Proof of manufacturer's qualifications.
      b. U-Factor and structural rating charts required for AAMA and NFRC labeling requirements.
      c. Installation Instructions - AAMA 2400, and AAMA 2410 (Flush Fin Installation).

B. Closeout Submittals: Reference Section 01 78 00 – Closeout Submittals; submit following items:
   1. Temporary window labels marked to identify windows that labels were applied to.
   2. Maintenance instructions.
   3. Special Warranties.

Milgard WoodClad™ Series Fiberglass Windows - 3-Part Specification

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1.03 QUALITY ASSURANCE

A. Overall Standards: Comply with ANSI/AAMA/101/I.S.2, except as otherwise noted herein.

B. Qualifications:
   1. Manufacturer Qualifications:
      a. Minimum ten years experience in producing fiberglass windows.
      b. Member AAMA, NFRC.

INSERT LOCAL REGULATORY REQUIREMENTS BELOW.

C. Regulatory Requirements:

D. Certifications for insulated glass windows:
   1. AAMA: Windows shall be Silver Label certified with label attached to frame per AAMA requirements.
   2. NFRC: Windows shall be NFRC certified with temporary U-factor label applied to glass and an NFRC tab added to permanent AAMA frame label.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Reference Section 01 66 00 – Product Storage and Handling Requirements.

B. Provide cardboard corner boots and full stretch wrap shipping protection.

C. Follow manufacturer's instructions on label applied to windows.

1.05 WARRANTY

SELECT "RESIDENTIAL" WARRANTY BELOW FOR OWNER OCCUPIED SINGLE FAMILY RESIDENTIAL AND OWNER OCCUPIED CONDOMINIUM PROJECTS. SELECT "COMMERCIAL" WARRANTY FOR NON-OWNER OCCUPIED CONDOMINIUMS, COMMERCIAL, AND MULTI-FAMILY PROJECTS.

A. Residential Special Warranty:
   1. Full Lifetime Warranty including glass breakage to original homeowner.
   2. Transferability:
      a. Permit unlimited transfer of ownership in first ten years.
      b. Upon first transfer of ownership, warranty period shall become ten years from date of original purchase.
   3. Guarantee windows against defects in materials and workmanship including costs for parts and labor. Wood veneer surfaces are required to be finish coated per manufacturer's instructions.

OR

A. Commercial Special Warranty:

   1. 10 year warranty.
   2. Guarantee windows against defects in materials and workmanship including costs for parts and labor. Wood veneer surfaces are required to be finish coated per manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Milgard Manufacturing, Inc.
1010 54th Avenue East
Tacoma, WA 98424

Tel: (800) MILGARD (645-4273)
Fax: (253) 926-0848
Website: http://www.milgard.com/

Milgard WoodClad™ Series Fiberglass Windows - 3-Part Specification

3000 SERIES FIBERGLASS

INSERT NAME, ADDRESS AND PHONE NUMBERS OF MANUFACTURER'S REPRESENTATIVE BELOW.

1. Manufacturer's Representative:
   _____ Tel: _____
   _____ Fax: _____
   _____ E-mail: _____

B. Window Series: Milgard WoodClad™.

C. Substitutions: Reference Section 01 25 13 – Product Substitution Procedures.

2.02 MATERIALS

A. Fiberglass: AAMA 305 glass fiber reinforced thermoset profile.

B. Wood Veneer: Clear vertical grain Douglas Fir or other premium veneer, 0.020 inches (0.51 mm) thick with fleece backing.

VERIFY THAT WINDOW FLASHING MATERIAL AND INSTALLATION SEALANT IS SPECIFIED IN APPROPRIATE SECTIONS.

2.03 GENERAL PERFORMANCE REQUIREMENTS

A. Thermal Performance: Comply with NFRC 100.

B. Air Leakage, Water Resistance, Structural Test: Comply with ANSI/AAMA /101/I.S.2.

C. Forced-Entry Resistance: Comply with CAWM 301-90.

2.04 WINDOW TYPES

SELECT FOLLOWING WINDOW TYPES AND RELATED NAIL FIN/MOUNTING STYLE BASED ON PROJECT REQUIREMENTS.
DELETE WINDOW TYPES NOT USED.

A. Horizontal Slider - 3110 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
   1. Frame: Minimum 4-1/4 inch (108 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sash: Minimum 1-9/16 inch (39.7 mm) deep, multi-chambered fiberglass pultrusion.
   3. Sightlines: Equal for operating and fixed sash.
   4. Structural Class:
      a. $6^0 6^0$ and smaller: HS-C35.
      b. $12^0 6^0$ XOX: HS-LC25.
   5. Hardware:
      a. Adjustable nylon rollers with SS axle, extruded aluminum snap-on monorail roller track.
      b. Cam lock locking mechanism [positive action lock mechanism option].
   6. Weatherstripping: Foam filled seal and fin seal polypropylene pile.

B. Single-Hung - 3210 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
   1. Frame: Minimum 4-1/4 inch (108 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sash: Minimum 1-9/16 inch (39.7 mm) deep, multi-chambered fiberglass pultrusion.
   3. Sightlines: Equal for operating and fixed sash.
   4. Structural Class: H-C30.
   5. Hardware:
      a. Concealed block and tackle balancer.
      b. Sash lift.
      c. Cam lock locking mechanism [positive action lock mechanism option].
   6. Weatherstripping: Foam filled seal and fin seal polypropylene pile.

Milgard WoodClad™ Series Fiberglass Windows - 3-Part Specification

C. Double-Hung Tilt - 3275 Series, [1-3/8 inch (35 mm) nail fin setback] [1-3/8 inch (35 mm) nail fin setback]:
   1. Frame: Minimum 5-7/8 inch (149 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sash: Minimum 1-9/16 inch (39.7 mm) deep, multi-chambered fiberglass pultrusion. Tilt-in upper and lower sash.
   3. Structural Class: DH-LC40.
   4. Hardware:
      a. Concealed constant force balancer.
      b. Sash lift option.
      c. Flush mounted cam lock/sash release mechanism.
   5. Weatherstripping: Foam filled seal and vinyl compression bulb seal.

D. Double-Hung Tilt - 3285 Series:
   1. Frame: Minimum 4 15/16 inch (125 mm) deep [3 1/4 inch Retrofit], multi-chambered fiberglass pultrusion.
   2. Sash: Minimum 1-9/16 inch (39.7 mm) deep, multi-chambered fiberglass pultrusion. Tilt-in upper and lower sash.
   3. Structural Class: DH-LC40.
   4. Hardware:
      a. Concealed constant force balancer.
      b. Sash lift option.
      c. Flush mounted cam lock/sash release mechanism.
   5. Weatherstripping: Foam filled seal and vinyl compression bulb seal.

E. Casement - 3510 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
   1. Frame: Minimum 3-1/4 inch (83 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sash: Minimum 2-3/8 inch (60.3 mm) deep, multi-chambered fiberglass pultrusion.
   3. Structural Class: C-C45.
   4. Hardware:
      a. Dual steel arm rotary operator with [standard handle] [fold-down handle].
      b. Single lever, multi-point, locking mechanism.
      c. Four bar stainless steel hinge.
   5. Weatherstripping: Vinyl compression bulb seal.

F. Awning - 3410 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
   1. Frame: Minimum 3-1/4 inch (83 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sash: Minimum 2-3/8 inch (60.3 mm) deep, multi-chambered fiberglass pultrusion.
   3. Structural Class: AP-C35.
   4. Hardware:
      a. Single steel arm rotary scissor operator with [standard handle] [fold-down handle].
      b. Dual lever locking mechanism.
      c. Two bar stainless steel hinge.
   5. Weatherstripping: Vinyl compression bulb seal.

G. Picture - 3310 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
   1. Frame: Minimum 3-1/4 inch (83 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sightlines: Equal to operating windows (except to double-hungs).
   3. Structural Class: F-C50.

H. Picture - 3315 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
   1. Frame: Minimum 4-1/4 inch (108 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sightlines: Equal to operating windows (except to double-hungs).
   3. Structural Class: F-C50.

I. Picture - 3371 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
   1. Frame: Minimum 4-1/4 inch (108 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sash: Minimum 1-9/16 inch (39.7 mm) deep, multi-chambered fiberglass pultrusion.
   3. Structural Class:

a. 6₀6₀ and smaller: HC-C35.
4. Weatherstripping: Foam filled seal.

J. Radius - 3710 Series, [1-3/8 inch (35 mm) nail fin setback]:
1. Frame: Minimum [3-1/4 inch (83 mm)] [4-1/4 inch (108 mm)] deep, extruded aluminum profile with integral wood liner. (This is not a fiberglass product)
2. Structural Class: F-C40.

K. Bay Windows:
1. Frame: Minimum 3-1/4 inch (83 mm) deep, multi-chambered fiberglass pultrusion.
2. Unit configuration and window types as shown on Drawings; mulled together to form single window unit.
3. Assembly posts at 45 degrees.

L. Bow Windows:
1. Frame: Minimum 3-1/4 inch (83 mm) deep, multi-chambered fiberglass pultrusion.
2. Unit configuration and window types as shown on Drawings; mulled together to form single window unit.
3. Assembly posts at 15 degrees.

2.05 GLAZING

A. Insulated Glass Units: ASTM E 774, Class A, 7/8 inch (22 mm) thick overall:
1. Glazing Type: [Clear/Clear] [Clear/SunCoat® Low-E] [Clear/SunCoat® Low-E, argon gas filled] [Clear/SunCoatMAX® Low-E] [Clear/SunCoatMAX® Low-E, argon gas filled] [Clear/Hardcoat Low-E] [Clear/Hardcoat Low-E, argon gas filled].
2. Spacer type: EdgeGardMAX™ High performance foam based warm edge spacer system.

MOST COMMON TYPES OF INSULATED UNITS ARE INCLUDED ABOVE, BUT SEVERAL OTHER TYPES INCLUDING TINTED, REFLECTIVE, HEAT STRENGTHENED, TEMPERED, OBSCURE, WIRE, AND LAMINATED ARE AVAILABLE FOR SPECIAL APPLICATIONS. SELECT DESIRED TYPES FROM MILGARD WEBSITE AND SPECIFY IN LIEU OF, OR IN ADDITION, TO THE ABOVE WITH ALL NECESSARY CRITERIA SUCH AS TINT COLORS AND OBSCURE PATTERNS. IF MORE THAN ONE TYPE OF GLAZING IS REQUIRED FOR THE PROJECT, BE CERTAIN THAT TYPE FOR EACH WINDOW IS CLEARLY NOTED ON DRAWINGS OR IN WINDOW SCHEDULE.

2.06 **GRIDS:**

SELECT DESIRED GRID TYPE, IF ANY, FROM THE FOLLOWING LIST AND DELETE THOSE NOT USED. STANDARD HORIZONTAL/VERTICAL GRID PATTERN WILL BE PROVIDED UNLESS OTHER GRID PATTERNS ARE SHOWN ON THE DRAWINGS. CERTAIN GRID PATTERNS MAY NOT BE AVAILABLE WITH ONE OR THE OTHER BAR TYPES IN THE FOLLOWING PARAGRAPHS - CONSULT MILGARD FOR DESIGN OTHER THAN STANDARD PATTERNS.

A. Grid Types:
1. **Flat Internal Grid: 5/8 inch (16 mm) wide aluminum bar internal (between the glass) grid.**
2. **Sculptured Internal Grid: 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid.**
3. **SDL Vintage Grid: 1-1/8 inch (29 mm) wide profiled clear vertical grain Douglas Fir or other premium wood strips applied to interior glass, 7/8 inch (22 mm) wide aluminum box spacer internal grid, and 1-1/8 inch (29 mm) wide trapezoidal fiberglass bar applied to exterior glass.**
4. **SDL Vintage Grid: 3/4 inch (19 mm) wide profiled clear vertical grain Douglas Fir or other premium wood strips applied to interior glass, 5/8 inch (16 mm) wide aluminum box spacer internal grid, and 3/4 inch (19 mm) wide trapezoidal fiberglass bar applied to exterior glass.**
5. **SDL Craftsman Grid: 1-1/8 inch (29 mm) wide profiled clear vertical grain Douglas Fir or other premium wood strips applied to interior glass, 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid.**
6. **SDL Legacy Grid: 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid, and 1-1/8 inch (29 mm) wide trapezoidal fiberglass bar applied to exterior glass.**
7. **Interior Grille: Removable grille of 7/8 inch (22 mm) wide profiled clear vertical grain Douglas Fir strips.**

2.07 INSECT SCREENS:

A. Provide tight-fitting screen for operating sash with hardware to allow easy removal.
1. Screen Cloth: [Fiberglass screen mesh]**[PureView™ low-visibility fiberglass mesh]**.

2. Frame: [Extruded aluminum frame - DHR, Case, Awn] [Roll formed aluminum frame - DH, SH, HV, Case, Awn].

2.08 FABRICATION

A. Fabricate frames and panels with milled and mitered joints and mechanically joined corners. Trim and finish corners to match adjacent surfaces.

B. Provide concealed metal reinforcement in sash frame for attaching lock mechanism.

C. Factory exterior wet silicone glaze with snap-on fiberglass glazing stops matching interior sash and frame finish, except where field glazing is required due to large window unit dimensions (over 40 sf (3.72 m^2)). Insulating units shall be reglazeable without dismantling sash framing.

2.09 FINISH

A. Frame and Panel Color:
1. Exterior: [Cranberry] [Matte Black] [Hunter Green] [Brownstone] [Tan] [White] [Sand] baked on enamel.
2. Interior: Wood veneer unfinished.

B. Simulated Divided Lite Grids:
1. Interior Wood Grids: Unfinished.
2. Internal Bars: Mill finished aluminum.
3. Exterior Fiberglass Bars: Baked on enamel; match frame and panel exterior color.

C. Hardware: [Painted or Metal finishes as supplied by Milgard].

D. Screen Frame Color:
1. Exterior Mounted Screens: Match frame to exterior window frame and sash color.
2. Interior Mounted Screens: [White] [Tan] [Brownstone] [Matte Black] [Sand] [Cranberry] [Hunter Green] [Champagne] [Wood Veneer].

2.10 SOURCE QUALITY CONTROL

A. Inspect windows in accordance with manufacturer's Quality Control Program as required by AAMA Silver Label certification.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine openings in which windows will be installed.
1. Verify that framing complies with AAMA 2400 & AAMA 2410 (Flush Fin Installation).
2. Verify that fasteners in framed walls are fully driven and will not interfere with window installation.

B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.02 INSTALLATION

INSTALLATION INSTRUCTIONS (AAMA 2400) ARE ADEQUATE FOR NORMAL INSTALLATION CONDITIONS IN FRAMED CONSTRUCTION. MASONRY WALLS AND UNUSUAL CONDITIONS MAY REQUIRE ADDITIONAL INFORMATION IN THIS ARTICLE.

A. Install windows in framed walls in accordance with AAMA 2400 & AAMA 2410 (Flush Fin Installation).
1. Provide continuous shim support along full length of sill.

B. Do not remove temporary labels.

C. Install insect screens on operable sash.

3.03 CLEANING AND FINISHING

A. Reference Section 01 74 00 – Cleaning and Waste Management.

B. Remove temporary labels and retain for Closeout Submittals.

C. Clean soiled painted surfaces and glass using a mild detergent and warm water solution with soft, clean cloths.

D. Clean wood veneer surfaces by lightly sanding with 220 grit or finer sandpaper.

E. Finish WoodClad units within 30 days of receipt per the instructions included with product.

END OF SECTION

Milgard WoodClad™ Series Fiberglass Doors - 3-Part Specification

3000 SERIES FIBERGLASS

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ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED BLANK SPACES, E.G. _____ .

OPTIONAL PARAGRAPHS REQUIRING SELECTION OF ONE OF THE OPTIONS ARE SEPARATED BY "OR" WITHIN A BOX, E.G.

OR

BOLD FACE TYPE IDENTIFIES OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE INCLUDED OR DELETED DEPENDING ON PROJECT REQUIREMENTS. CONVERT THE BOLD FACE TYPE TO REGULAR TYPE WHEN INCLUDING THESE PARAGRAPHS OR FEATURES.

REVISE FOOTER TO SUIT PROJECT/OFFICE REQUIREMENTS.

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Milgard WoodClad™ Series Fiberglass Doors - 3-Part Specification

3000 SERIES FIBERGLASS

SECTION 08 16 13 AND 08 16 73

FIBERGLASS DOORS (SWING) & SLIDING COMPOSITE DOORS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Fiberglass framed glass doors with painted exterior and wood veneer interior finish:
   1. **French [inswing] [and] [outswing] doors.**
   2. **Sliding doors.**

B. Related Sections:

INSERT APPROPRIATE SECTION NUMBERS AND TITLES BELOW FOR DOOR FLASHING, INSTALLATION SEALANT AND FINISHING OF INTERIOR WOOD VENEER SURFACES. WARRANTY REQUIRES THAT INTERIOR VENEERED SURFACES BE FINISH COATED.

   1. __ __ __ - _____.
   2. __ __ __ - _____.
   3. **08 54 13 - Fiberglass Windows.**
   4. __ __ __- _____**. Finishing of interior wood veneer surfaces.**

INCLUDE APPROPRIATE LANGUAGE BELOW IF PRODUCTS SPECIFIED IN THIS SECTION ARE TO BE BID AS ALTERNATES. OTHERWISE DELETE FOLLOWING PARAGRAPH.

C. Alternates:
   1. Reference Section 01 23 00 – Alternates.

1.02 SUBMITTALS

A. Reference Section 01 33 00 – Submittal Procedures; submit following items:
   1. Product Data.
   2. Shop Drawings: Include door schedule, door elevations, sections and details, and multiple unit assembly details.
   3. Samples:
      a. Color Samples: Minimum 1x4 inch (25x100 mm) paint color chips on fiberglass substrate.
      b. Wood Veneer Samples: Minimum 1x4 inch (25x100 mm) veneer on fiberglass substrate.
      c. Glass, showing specified tint color.
   4. Quality Assurance/Control Submittals:
      a. Qualifications: Proof of manufacturer's qualifications.
      b. U-Factor and structural rating charts required for AAMA and NFRC labeling requirements.
      c. Manufacturer's Installation Instructions.

B. Closeout Submittals: Reference Section 01 78 00 – Closeout Submittals; submit following items:
   1. Temporary labels marked to identify doors that labels were applied to.
   2. Maintenance instructions.
   3. Special Warranties.

1.03 QUALITY ASSURANCE

A. Overall Standards: Comply with ANSI/AAMA/101/I.S.2, except as otherwise noted herein.

B. Qualifications:
   1. Manufacturer Qualifications:
      a. Minimum five years experience in producing fiberglass doors.
      b. Member AAMA, NFRC.

Milgard WoodClad™ Series Fiberglass Doors - 3-Part Specification

3000 SERIES FIBERGLASS

NSERT LOCAL REGULATORY REQUIREMENTS BELOW.

C. Regulatory Requirements:

D. Certifications for insulated glass doors:
1. AAMA: Doors shall be Silver Label certified with label attached to frame per AAMA requirements.
2. NFRC: Doors shall be NFRC certified with temporary U-factor label applied to glass and an NFRC tab added to permanent AAMA frame label.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Reference Section 01 66 00 – Product Storage and Handling Requirements.

B. Follow manufacturer's instructions on label applied to doors.

1.05 WARRANTY

SELECT "RESIDENTIAL" WARRANTY BELOW FOR OWNER OCCUPIED SINGLE FAMILY RESIDENTIAL AND OWNER OCCUPIED CONDOMINIUM PROJECTS. SELECT "COMMERCIAL" WARRANTY FOR NON-OWNER OCCUPIED CONDOMINIUMS, COMMERCIAL, AND MULTI-FAMILY PROJECTS.

A. Residential Special Warranty:
1. Full Lifetime Warranty including glass breakage to original homeowner.
2. Transferability:
   a. Permit unlimited transfer of ownership in first ten years.
   b. Upon first transfer of ownership, warranty period shall become ten years from date of original purchase.
3. Guarantee doors against defects in materials and workmanship including costs for parts and labor. Wood veneer surfaces are required to be finish coated per manufacturer's instructions.

OR

A. Commercial Special Warranty:
1. 10 year warranty.
2. Guarantee doors against defects in materials and workmanship including costs for parts and labor. Wood veneer surfaces are required to be finish coated per manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Milgard Manufacturing, Inc.
1010 54th Avenue East
Tacoma, WA 98424

Tel: (800) MILGARD (645-4273)
Fax: (253) 926-0848
Website: http://www.milgard.com/

INSERT NAME, ADDRESS AND PHONE NUMBERS OF MANUFACTURER'S REPRESENTATIVE BELOW.

1. Manufacturer's Representative:
_____
_____
_____

Tel: _____
Fax: _____
E-mail: _____

B. Door Series: Milgard WoodClad™.

C. Substitutions: Reference Section 01 25 13 – Product Substitution Procedures.

Milgard WoodClad™ Series Fiberglass Doors - 3-Part Specification

2.02 MATERIALS

A. Fiberglass: AAMA 305, glass fiber reinforced thermoset profile.

B. Wood Veneer: Clear vertical grain Douglas Fir or other premium veneer, 0.020 inches (0.51 mm) thick with fleece backing.

VERIFY THAT DOOR FLASHING MATERIAL AND INSTALLATION SEALANT IS SPECIFIED IN APPROPRIATE SECTIONS.

2.03 GENERAL PERFORMANCE REQUIREMENTS

A. Thermal Performance: Comply with NFRC 100.

B. Air Leakage, Water Resistance, Structural Test: Comply with ANSI/AAMA /101/I.S.2.

C. Forced-Entry Resistance: Comply with ASTM F 842-04.

2.04 DOOR TYPES

SELECT FOLLOWING DOOR TYPES BASED ON PROJECT REQUIREMENTS. DELETE DOOR TYPES NOT USED. VERIFY THAT DRAWINGS SHOW PANEL ARRANGEMENT AND OPERATING PANELS FOR EACH OPENING.

A. French Door - Inswing 3642 and 3662 Series, with [nail fin] [Z-Bar flush fin retrofit trim]:
   1. Frame: [4-9/16 inch (116 mm)] [6-9/16 inch (167 mm)] deep, multi-chambered fiberglass pultrusion with optional snap in nail fin setbacks of 1-3/8 inch (35 mm) and 1 inch (25 mm).
      a. Cover interior exposed surfaces with factory applied wood veneer.
   2. Panel Frame:
      a. Top Rail: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
      b. Bottom Rail: Minimum 1-3/4 by 8-5/8 inch (44 by 219 mm) multi-chambered fiberglass pultrusion.
      c. Stiles: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
      d. Cover interior exposed surfaces with factory applied wood veneer.
   3. Sill: [4-9/16 inch (116 mm) deep frame: 5-15/16 by 1-5/8 inch high (151 by 41 mm high)] [6-9/16 inch (167 mm) deep frame: 7-15/16 by 1-5/8 inch high (202 by 41 mm high)] multi-chambered fiberglass pultrusion.
   4. Sight lines: Equal for doors and fixed panels.
   5. Structural Class: SGD-C45 (2 panel only).
   6. Hardware:
      a. Lock: Inside and outside lever operated latch and One Motion 3 point locking system, with 2 tapered hooks and interior thumb turn deadbolt.
      b. Keyed exterior cylinder lock, Schlage compatible.
      c. Hinges: 2-way adjustable lift-off hinges; finish to match handle set.
   7. Weatherstripping: Foam filled bulb seal.
      a. Sill Sweep: Rubber dual-fin sweep.

B. French Door - Outswing 3623 Series, with [nail fin] [Z-Bar flush fin retrofit trim]:
   1. Frame: [4-9/16 inch (116 mm)] deep, multi-chambered fiberglass pultrusion with optional snap in nail fin setbacks of 1-3/8 inch (35 mm) and 1 inch (25 mm).
      a. Cover interior exposed surfaces with factory applied wood veneer.
   2. Panel Frame:
      a. Top Rail: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
      b. Bottom Rail: Minimum 1-3/4 by 8-5/8 inch (44 by 219 mm) multi-chambered fiberglass pultrusion.
      c. Stiles: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
      d. Cover interior exposed surfaces with factory applied wood veneer.
      e. Reinforcement: Extruded aluminum profiles at corners and lock. Corner reinforcement shall engage rails minimum 4 inches (100 mm) and stiles minimum 10 inches (255 mm).
   3. Sill: [4-9/16 inch (116 mm) deep frame: 5-15/16 by 1-13/16 inch high (151 by 46 mm high)] multi-chambered fiberglass pultrusion.
   4. Sight lines: Equal for doors and fixed panels.

5. Structural Class: SGD-C30 (2 panel only).
6. Hardware:
   a. Lock: Inside and outside lever operated latch and 2-point locking rod to head and sill, with interior thumb turn dead bolt.
   b. Keyed exterior cylinder lock, Schlage compatible
   c. Hinges: 2-way adjustable; finish to match lock.
7. Weatherstripping: Foam filled bulb seal.
   a. Sill Sweep: Rubber dual-fin sweep.

C. Sliding Door - 3626 Series, with [nail fin] [Z-Bar flush fin retrofit trim]:
1. Frame: [4-9/16 inch (116 mm)] deep, multi-chambered fiberglass pultrusion with optional snap in nail fin setbacks of 1-3/8 inch (35 mm) and 1 inch (25 mm).
   a. Cover interior exposed surfaces with factory applied wood veneer.
2. Panel Frame:
   a. Top Rail: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
   b. Bottom Rail: Minimum 1-3/4 by 8-5/8 inch (44 by 219 mm) multi-chambered fiberglass pultrusion.
   c. Stiles: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
   d. Cover interior exposed surfaces with factory applied wood veneer.
   e. Reinforcement: Extruded aluminum profiles at corners and lock. Corner reinforcement shall engage rails minimum 4 inches (100 mm) and stiles minimum 10 inches (255 mm).
3. Sill: [4-9/16 inch (116 mm) deep frame: 5-15/16 by 1-13/16 inch high (151 by 46 mm high)] multi-chambered fiberglass pultrusion.
4. Sightlines: Equal for operating and fixed panels.
5. Structural Class: SGD-C30 (2 panel only).
6. Hardware:
   a. Handle and Lock: Inside and outside pull with lever operated 2 point jamb lock.
   b. Keyed exterior cylinder lock, Schlage compatible.
   c. Rollers: two sets of dual composite nylon, 1-1/2 inch (38 mm) diameter, rollers on raised monorail aluminum track.
7. Weatherstripping: Fin seal polypropylene pile.

2.05 GLAZING

A. Insulated Glass Units: ASTM E 774, Class A, minimum 7/8 inch (22 mm) thick overall:
1. Glazing Type: [Clear/Clear] [Clear/SunCoat® Low-E] [Clear/SunCoat® Low-E, argon gas filled] [Clear/SunCoatMAX® Low-E] [Clear/SunCoatMAX® Low-E, argon gas filled] [Clear/Hardcoat Low-E] [Clear/Hardcoat Low-E, argon gas filled].
2. Spacer type: EdgeGardMAX™ High performance warm edge spacer technology.

MOST COMMON TYPES OF INSULATED UNITS ARE INCLUDED ABOVE, BUT SEVERAL OTHER TYPES INCLUDING TINTED, REFLECTIVE, OBSCURE, WIRE, AND LAMINATED ARE AVAILABLE FOR SPECIAL APPLICATIONS. SELECT DESIRED TYPES FROM MILGARD WEBSITE AND SPECIFY IN LIEU OF, OR IN ADDITION, TO THE ABOVE WITH ALL NECESSARY CRITERIA SUCH AS TINT COLORS AND OBSCURE PATTERNS. IF MORE THAN ONE TYPE OF GLAZING IS REQUIRED FOR THE PROJECT, BE CERTAIN THAT TYPE FOR EACH DOOR IS CLEARLY NOTED ON DRAWINGS OR IN DOOR SCHEDULE.

2.06 GRIDS :

SELECT DESIRED GRID TYPE, IF ANY, FROM THE FOLLOWING LIST AND DELETE THOSE NOT USED.
STANDARD HORIZONTAL/VERTICAL GRID PATTERN WILL BE PROVIDED UNLESS OTHER GRID PATTERNS ARE SHOWN ON THE DRAWINGS.
CERTAIN GRID PATTERNS MAY NOT BE AVAILABLE WITH ONE OR THE OTHER BAR TYPES IN THE FOLLOWING PARAGRAPHS - CONSULT MILGARD FOR DESIGN OTHER THAN STANDARD PATTERNS.

A. Grid Types:
1. Flat Internal Grid: 5/8 inch (16 mm) wide aluminum bar internal (between the glass) grid.
2. Sculptured Internal Grid: 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid.
3. SDL Vintage Grid: 1-1/8 inch (29 mm) wide profiled clear vertical grain Douglas Fir or other premium wood strips applied to interior glass, 7/8 inch (22 mm) wide aluminum box spacer internal grid, and 1-1/8 inch (29 mm) wide

trapezoidal fiberglass bar applied to exterior glass.

4. SDL Vintage Grid: 3/4 inch (19 mm) wide profiled clear vertical grain Douglas Fir or other premium wood strips applied to interior glass, 5/8 inch (16 mm) wide aluminum box spacer internal grid, and 3/4 inch (19 mm) wide trapezoidal fiberglass bar applied to exterior glass.
5. SDL Craftsman Grid: 1-1/8 inch (29 mm) wide profiled clear vertical grain Douglas Fir or other premium wood strips applied to interior glass, 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid.
6. SDL Legacy Grid: 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid, and 1-1/8 inch (29 mm) wide trapezoidal fiberglass bar applied to exterior glass.
7. Interior Grille: Removable grille of 7/8 inch (22 mm) wide profiled clear vertical grain Douglas Fir strips.

2.07 INSECT SCREENS:

A. Retractable Door Screen:
1. **Single canister side-coiling counter balanced screen system.**
2. **Extruded aluminum track.**
3. **Weatherstripping: Polypropylene pile, non-fin.**
4. **Extruded aluminum housing.**
5. **Screen Cloth: Charcoal colored fiberglass mesh.**

B. Sliding Door Screen (not available for out-swing door):
1. **Frame: Extruded aluminum, 2 by 13/16 inches (51 by 21 mm).**
2. **Hardware:**
   a. **Lock: Lever action type.**
   b. **Rollers: 2 adjustable nylon rollers at top, and 2 adjustable nylon rollers at bottom.**
3. **Screen Cloth: [Charcoal colored fiberglass mesh] [Optional PureView Low-visiblility fiberglass mesh].**

2.08 FABRICATION

A. Fabricate frames and panels with milled and butted joints and mechanically joined corners. Adhere wood veneer with catalyzed polyurethane adhesive.

B. Factory exterior glaze with snap-on fiberglass glazing stops matching frame finish. Units shall be reglazeable without dismantling panel framing.

2.09 FINISH

A. Frame and Panel Color:
1. Exterior: [Cranberry] [Matte Black] [Hunter Green] [Brownstone] [Tan] [White] [Sand] baked on enamel.
2. Interior: Wood veneer unfinished.

B. Simulated Divided Lite Grids:
1. **Interior Wood Strips: Unfinished.**
2. **Internal Bars: Mill finished aluminum.**
3. **Exterior Fiberglass Bars: Baked on enamel; match frame and panel exterior color.**

C. Hardware: [Painted or Metal finishes as supplied by Milgard].
1. **French Door: [Polished Brass] [Polished Chrome] [Antique Brass] [Satin Chrome] [Bronze] [Oil Rubbed Bronze] [White].**
2. **Sliding Door Interior: [Polished Brass] [Polished Chrome] [Antique Brass] [Satin Chrome] [Bronze] [Oil Rubbed Bronze] [White].**
3. **Sliding Door Exterior: [White] [Sand] [Tan] [Hunter Green] [Brownstone].**

D. Retractable Screen:
1. **Inswing Door: Match exterior frame and panel color. Not available in Cranberry.**
2. **Outswing Door: [Tan].**
3. **Sliding Door: Match exterior frame and panel color. Not available in Cranberry.**

E. Sliding Screen:
   1. **Inswing Door: Match exterior frame and panel color.**
   2. **Sliding Door: Match exterior frame and panel color.**

2.10 SOURCE QUALITY CONTROL

A. Inspect doors in accordance with manufacturer's Quality Control Program as required by AAMA Silver Label certification.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine openings in which doors will be installed.
   1. **Verify that fasteners in framed walls are fully driven and will not interfere with door installation.**
   2. **Verify that sill is flat and level.**

B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.02 INSTALLATION

INSTALLATION INSTRUCTIONS ARE ADEQUATE FOR NORMAL INSTALLATION CONDITIONS IN FRAMED CONSTRUCTION. MASONRY WALLS AND UNUSUAL CONDITIONS MAY REQUIRE ADDITIONAL INFORMATION IN THIS ARTICLE.

A. Install doors in framed walls in accordance with manufacturer's installation instructions.
   1. Flash head and jambs in accordance with AAMA 2400 and AAMA 2410.

B. Do not remove temporary labels.

C. Install insect screens on operable panels.

3.03 ADJUSTING

A. Adjust operating panels and hardware for smooth operation and tight fit with weatherstripping.

3.04 CLEANING AND FINISHING

A. Reference Section 01 74 00 – Cleaning and Waste Management.
B. Remove temporary labels and retain for Closeout Submittals.
C. Clean soiled painted surfaces and glass using a mild detergent and warm water solution with soft, clean cloths.
D. Clean wood veneer surfaces by lightly sanding with 220 grit or finer sandpaper.
E. Finish WoodClad units within 30 days of receipt per the instructions included with product.

END OF SECTION

Issue Date: February 16, 2009
Specification subject to change. For the most up to date information visit milgard.com.

Milgard WoodClad™ Series Fiberglass Doors - 3-Part Specification

3000 SERIES FIBERGLASS

GUIDE SPEC 3000-16
FEBRUARY 2009

Milgard Ultra™ Series Fiberglass Windows - 3-Part Specification

3000 SERIES FIBERGLASS

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ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED BLANK SPACES, E.G. _____ .

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OR

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REVISE FOOTER TO SUIT PROJECT/OFFICE REQUIREMENTS.

ELECTRONIC VERSIONS OF THIS SPECIFICATION UTILIZE AUTOMATIC PARAGRAPH NUMBERING.

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Milgard Ultra™ Series Fiberglass Windows - 3-Part Specification

3000 SERIES FIBERGLASS

SECTION 08 54 13
FIBERGLASS WINDOWS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Fiberglass windows with painted exterior and interior finish of the following type(s):
   1. **Horizontal sliding windows.**
   2. **Single-hung windows.**
   3. **Double-hung tilt windows.**
   4. **Casement windows.**
   5. **Awning windows.**
   6. **Picture windows.**
   7. **Radius windows.**
   8. **Bay windows.**
   9. **Bow windows.**

B. Related Sections:

INSERT APPROPRIATE SECTION NUMBERS AND TITLES BELOW FOR DOOR FLASHING, INSTALLATION SEALANT AND PAINTING OF INTERIOR FRAME, SASH, AND DIVIDED LITE GRIDS IF DESIRED. WINDOWS ARE FURNISHED PREPAINTED IN WHITE BAKED ON ENAMEL, BUT CAN BE FIELD PAINTED IN ANOTHER COLOR.

   1. __ __ __ - _____.
   2. __ __ __ - _____.
   3. **08 16 13 - Fiberglass Doors (Swing).**
   4. **08 16 73 - Sliding Composite Doors.**
   5. __ __ __- _____. **Painting of interior frame and sash.**

INCLUDE APPROPRIATE LANGUAGE BELOW IF PRODUCTS SPECIFIED IN THIS SECTION ARE TO BE BID AS ALTERNATES. OTHERWISE DELETE FOLLOWING PARAGRAPH.

C. Alternates:
   1. Reference Section 01 23 00 – Alternates.

1.02 SUBMITTALS

A. Reference Section 01 33 00 – Submittal Procedures; submit following items:
   1. Product Data.
   2. Shop Drawings: Include window schedule, window elevations, sections and details, and multiple window assembly details.
   3. Samples:
      a. Color Samples: Minimum 1x4 inch (25x100 mm) paint color chips on fiberglass substrate.
      b. Glass, showing specified tint color.
   4. Quality Assurance/Control Submittals:
      a. Qualifications: Proof of manufacturer's qualifications.
      b. U-Factor and structural rating charts required for AAMA and NFRC labeling requirements.
      c. Installation Instructions - AAMA 2400 & AAMA 2410 (Flush Fin Installation).

B. Closeout Submittals: Reference Section 01 78 00 – Closeout Submittals; submit following items:
   1. Temporary window labels marked to identify windows that labels were applied to.
   2. Maintenance instructions.
   3. Special Warranties.

Milgard Ultra™ Series Fiberglass Windows - 3-Part Specification

3000 SERIES FIBERGLASS

1.03 QUALITY ASSURANCE

A. Overall Standards: Comply with ANSI/AAMA/101/I.S.2, except as otherwise noted herein.

B. Qualifications:
   1. Manufacturer Qualifications:
      a. Minimum ten years experience in producing fiberglass windows.
      b. Member AAMA, NFRC.

INSERT LOCAL REGULATORY REQUIREMENTS BELOW.

C. Regulatory Requirements:

D. Certifications for insulated glass windows:
   1. AAMA: Windows shall be Silver Label certified with label attached to frame per AAMA requirements.
   2. NFRC: Windows shall be NFRC certified with temporary U-factor label applied to glass and an NFRC tab added to permanent AAMA frame label.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Reference Section 01 66 00 – Product Storage and Handling Requirements.

B. Provide cardboard corner boots and full stretch wrap shipping protection.

C. Follow manufacturer's instructions on label applied to windows.

1.05 WARRANTY

SELECT "RESIDENTIAL" WARRANTY BELOW FOR OWNER OCCUPIED SINGLE FAMILY RESIDENTIAL AND OWNER OCCUPIED CONDOMINIUM PROJECTS. SELECT "COMMERCIAL" WARRANTY FOR NON-OWNER OCCUPIED CONDOMINIUMS, COMMERCIAL, AND MULTI-FAMILY PROJECTS.

A. Residential Special Warranty:
   1. Full Lifetime Warranty including glass breakage to original homeowner.
   2. Transferability:
      a. Permit unlimited transfer of ownership in first ten years.
      b. Upon first transfer of ownership, warranty period shall become ten years from date of original purchase.
   3. Guarantee windows against defects in materials and workmanship including costs for parts and labor. Wood veneer surfaces are required to be finish coated per manufacturer's instructions.

OR

A. Commercial Special Warranty:
   1. 10 year warranty.
   2. Guarantee windows against defects in materials and workmanship including costs for parts and labor. Wood veneer surfaces are required to be finish coated per manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Milgard Manufacturing, Inc.
1010 54th Avenue East
Tacoma, WA 98424

Tel: (800) MILGARD (645-4273)
Fax: (253) 926-0848
Website: http://www.milgard.com/

INSERT NAME, ADDRESS AND PHONE NUMBERS OF MANUFACTURER'S REPRESENTATIVE BELOW.

Milgard Ultra™ Series Fiberglass Windows - 3-Part Specification

3000 SERIES FIBERGLASS

1. Manufacturer's Representative:

_____		Tel:	_____
_____		Fax:	_____
_____		E-mail:	_____

B. Window Series: Milgard Ultra™.

C. Substitutions: Reference Section 01 25 13 – Product Substitution Procedures.

2.02 MATERIALS

A. Fiberglass: AAMA 305 glass fiber reinforced thermoset profile.

VERIFY THAT WINDOW FLASHING MATERIAL AND INSTALLATION SEALANT IS SPECIFIED IN APPROPRIATE SECTIONS.

2.03 GENERAL PERFORMANCE REQUIREMENTS

A. Thermal Performance: Comply with NFRC 100.

B. Air Leakage, Water Resistance, Structural Test: Comply with ANSI/AAMA /NWWDA 101/I.S.2.

C. Forced-Entry Resistance: Comply with CAWM 301-90.

2.04 WINDOW TYPES

SELECT FOLLOWING WINDOW TYPES AND RELATED NAIL FIN/MOUNTING STYLE BASED ON PROJECT REQUIREMENTS.
DELETE WINDOW TYPES NOT USED.

A. Horizontal Slider - 3110 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
   1. Frame: Minimum 4-1/4 inch (108 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sash: Minimum 1-9/16 inch (39.7 mm) deep, multi-chambered fiberglass pultrusion.
   3. Sightlines: Equal for operating and fixed sash.
   4. Structural Class:
      a. $6^0 6^0$ and smaller: HS-C35.
      b. $12^0 6^0$ XOX: HS-LC25.
   5. Hardware:
      a. Adjustable nylon rollers with SS axle, extruded aluminum snap-on monorail roller track.
      b. Cam lock locking mechanism [positive action lock mechanism option].
   6. Weatherstripping: Foam filled seal and fin seal polypropylene pile.

B. Single-Hung - 3210 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]
   1. Frame: Minimum 4-1/4 inch (108 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sash: Minimum 1-9/16 inch (39.7 mm) deep, multi-chambered fiberglass pultrusion.
   3. Sightlines: Equal for operating and fixed sash.
   4. Structural Class: H-C30.
   5. Hardware:
      a. Concealed block and tackle balancer.
      b. Sash lift.
      c. Positive action locking mechanism [cam lock option].
   6. Weatherstripping: Foam filled seal and fin seal polypropylene pile.

C. Double-Hung Tilt - 3275 Series, [1-3/8 inch (35 mm) nail fin setback] [1-3/8 inch (35 mm) nail fin setback]:
   1. Frame: Minimum 5-7/8 inch (149 mm) deep, multi-chambered fiberglass pultrusion.
   2. Sash: Minimum 1-9/16 inch (39.7 mm) deep, multi-chambered fiberglass pultrusion. Tilt-in upper and lower sash.
   3. Structural Class: DH-LC40.

4. Hardware:
   a. Concealed constant force balancer.
   b. Sash lift option.
   c. Flush mounted cam lock/sash release mechanism.
5. Weatherstripping: Foam filled seal and vinyl compression bulb seal.

D. Double-Hung Tilt - 3285 Series:
1. Frame: Minimum 4 15/16 inch (125 mm) deep [3 1/4 inch Retrofit], multi-chambered fiberglass pultrusion.
2. Sash: Minimum 1-9/16 inch (39.7 mm) deep, multi-chambered fiberglass pultrusion. Tilt-in upper and lower sash.
3. Structural Class: DH-LC40.
4. Hardware:
   a. Concealed constant force balancer.
   b. Sash lift option.
   c. Flush mounted cam lock/sash release mechanism.
5. Weatherstripping: Foam filled seal and vinyl compression bulb seal.

E. Casement - 3510 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
1. Frame: Minimum 3-1/4 inch (83 mm) deep, multi-chambered fiberglass pultrusion.
2. Sash: Minimum 2-3/8 inch (60.3 mm) deep, multi-chambered fiberglass pultrusion.
3. Structural Class: C-C45.
4. Hardware:
   a. Dual steel arm rotary operator with [standard handle] [fold-down handle].
   b. Single lever, multi-point, locking mechanism.
   c. Four bar stainless steel hinge.
5. Weatherstripping: Vinyl compression bulb seal.

F. Awning - 3410 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
1. Frame: Minimum 3-1/4 inch (83 mm) deep, multi-chambered fiberglass pultrusion.
2. Sash: Minimum 2-3/8 inch (60.3 mm) deep, multi-chambered fiberglass pultrusion.
3. Structural Class: AP-C35.
4. Hardware:
   a. Single steel arm rotary scissor operator with [standard handle] [fold-down handle].
   b. Dual lever locking mechanism.
   c. Two bar stainless steel hinge.
5. Weatherstripping: Vinyl compression bulb seal.

G. Picture - 3310 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
1. Frame: Minimum 3-1/4 inch (83 mm) deep, multi-chambered fiberglass pultrusion.
2. Sightlines: Equal to operating windows (except to double-hungs).
3. Structural Class: F-C50.

H. Picture - 3315 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
1. Frame: Minimum 4-1/4 inch (108 mm) deep, multi-chambered fiberglass pultrusion.
2. Sightlines: Equal to operating windows (except to double-hungs).
3. Structural Class: F-C50.

I. Picture - 3371 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback] [Z-Bar flush fin retrofit trim]:
1. Frame: Minimum 4-1/4 inch (108 mm) deep, multi-chambered fiberglass pultrusion.
2. Sash: Minimum 1-9/16 inch (39.7 mm) deep, multi-chambered fiberglass pultrusion.
3. Structural Class:
   a. 6060 and smaller: HC-C35.
4. Weatherstripping: Foam filled seal.

J. Radius - 3710 Series, [1-3/8 inch (35 mm) nail fin setback] [1 inch (25 mm) nail fin setback]:
   1. Frame: Minimum [3-1/4 inch (83 mm)] [4-1/4 inch (108 mm)] deep, extruded aluminum profile with integral wood liner. (This is not a fiberglass product)
   2. Structural Class: F-C40.

K. Bay Windows:
   1. Frame: Minimum 3-1/4 inch (83 mm) deep, multi-chambered fiberglass pultrusion.
   2. Unit configuration and window types as shown on Drawings; mulled together to form single window unit.
   3. Assembly posts at 45 degrees.

2.05 GLAZING

A. Insulated Glass Units: ASTM E 774, Class A, 7/8 inch (22 mm) thick overall:
   1. Glazing Type: [Clear/Clear] [Clear/SunCoat® Low-E] [Clear/SunCoat® Low-E, argon gas filled] [Clear/SunCoatMAX® Low-E] [Clear/SunCoatMAX® Low-E, argon gas filled] [Clear/Hardcoat Low-E] [Clear/Hardcoat Low-E, argon gas filled].
   2. Spacer type: EdgeGardMAX™ High Performace foam based warm edge spacer system.

MOST COMMON TYPES OF INSULATED UNITS ARE INCLUDED ABOVE, BUT SEVERAL OTHER TYPES INCLUDING TINTED, REFLECTIVE, HEATSTRENGTHENED, TEMPERED, OBSCURE, WIRE, AND LAMINATED ARE AVAILABLE FOR SPECIAL APPLICATIONS. SELECT DESIRED TYPES FROM MILGARD WEBSITE AND SPECIFY IN LIEU OF, OR IN ADDITION, TO THE ABOVE WITH ALL NECESSARY CRITERIA SUCH AS TINT COLORS AND OBSCURE PATTERNS. IF MORE THAN ONE TYPE OF GLAZING IS REQUIRED FOR THE PROJECT, BE CERTAIN THAT TYPE FOR EACH WINDOW IS CLEARLY NOTED ON DRAWINGS OR IN WINDOW SCHEDULE.

2.06 GRIDS:

SELECT DESIRED GRID TYPE, IF ANY, FROM THE FOLLOWING LIST AND DELETE THOSE NOT USED.
STANDARD HORIZONTAL/VERTICAL GRID PATTERN WILL BE PROVIDED UNLESS OTHER GRID PATTERNS ARE SHOWN ON THE DRAWINGS.
CERTAIN GRID PATTERNS MAY NOT BE AVAILABLE WITH ONE OR THE OTHER BAR TYPES IN THE FOLLOWING PARAGRAPHS - CONSULT MILGARD FOR DESIGN OTHER THAN STANDARD PATTERNS.

A. Grid Types:
   1. Flat Internal Grid: 5/8 inch (16 mm) wide aluminum bar internal (between the glass) grid.
   2. Sculptured Internal Grid: 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid.
   3. SDL Vintage Grid: 1-1/8 inch (29 mm) wide profiled painted wood strips applied to interior glass, 7/8 inch (22 mm) wide aluminum box spacer internal grid, and 1-1/8 inch (29 mm) wide trapezoidal fiberglass bar applied to exterior glass.
   4. SDL Vintage Grid: 3/4 inch (19 mm) wide profiled painted wood strips applied to interior glass, 5/8 inch (16 mm) wide aluminum box spacer internal grid, and 3/4 inch (19 mm) wide trapezoidal fiberglass bar applied to exterior glass.
   5. SDL Craftsman Grid: 1-1/8 inch (29 mm) wide profiled painted wood strips applied to interior glass, 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid.
   6. SDL Legacy Grid: 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid, and 1-1/8 inch (29 mm) wide trapezoidal fiberglass bar applied to exterior glass.

2.07 INSECT SCREENS:

A. Provide tight-fitting screen for operating sash with hardware to allow easy removal.
   1. Screen Cloth: [Fiberglass screen mesh][Optional PureView™ low-visibility fiberglass mesh].
   2. Frame: [Extruded aluminum frame - DHR, Case, Awn] [Roll formed aluminum frame - DH, SH, HV, Case, Awn]

2.08 FABRICATION

A. Fabricate frames and panels with milled and mitered joints and mechanically joined corners. Trim and finish corners to match adjacent surfaces.

B. Provide concealed metal reinforcement in sash frame for attaching lock mechanism.

C. Factory exterior wet silicone glaze with snap-on fiberglass glazing stops matching interior sash and frame finish, except where field glazing is required due to large window unit dimensions (over 40 sf (3.72 m^2)). Insulating units shall be reglazeable without dismantling sash framing.

2.09 FINISH

A. Frame and Sash.
   1. Exterior: Paint color is baked on enamel.
   2. Interior: White baked on enamel.

B. Simulated Divided Lite Grids:
   1. Interior Wood Grids: Paint white to match frame and sash interior finish.
   2. Internal Bars: Mill finished aluminum.
   3. Exterior Fiberglass Bars: Baked on enamel; match frame and panel exterior color.

C. Hardware: [Painted or Metal finishes as supplied by Milgard].

D. Screen Frame Color:
   1. Exterior Mounted Screens: Match frame to exterior window frame and sash color.
   2. Interior Mounted Screens: [White] [Tan] [Brownstone] [Matte Black] [Silver Pearl] [Sand] [Cranberry] [Hunter Green] [Champagne].

2.10 SOURCE QUALITY CONTROL

A. Inspect windows in accordance with manufacturer's Quality Control Program as required by AAMA Silver Label certification.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine openings in which windows will be installed.
   1. Verify that framing complies with AAMA 2400 & AAMA 2410 (Flush Fin Installation).
   2. Verify that fasteners in framed walls are fully driven and will not interfere with window installation.

B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.02 INSTALLATION

INSTALLATION INSTRUCTIONS (AAMA 2400) ARE ADEQUATE FOR NORMAL INSTALLATION CONDITIONS IN FRAMED CONSTRUCTION. MASONRY WALLS AND UNUSUAL CONDITIONS MAY REQUIRE ADDITIONAL INFORMATION IN THIS ARTICLE.

A. Install windows in framed walls in accordance with AAMA 2400.
   1. Provide continuous shim support along full length of sill.

B. Do not remove temporary labels.

C. Install insect screens on operable sash.

3.03 CLEANING

A. Reference Section 01 74 00 – Cleaning and Waste Management.

B. Remove temporary labels and retain for Closeout Submittals.

C. Clean soiled surfaces and glass using a mild detergent and warm water solution with soft, clean cloths.

END OF SECTION

Issue Date: February 16, 2009
Specification subject to change. For the most up to date information visit milgard.com.

GUIDE SPEC 3000-23
FEBRUARY 2009

Milgard Ultra™ Series Fiberglass Windows - 3-Part Specification

3000 SERIES FIBERGLASS

GUIDE SPEC 3000-24
FEBRUARY 2009

Milgard Ultra™ Series Fiberglass Patio Doors - 3-Part Specification

3000 SERIES FIBERGLASS

GENERAL NOTES TO SPECIFIER:

THIS SPECIFICATION SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS IN THE PREPARATION OF PROJECT OR OFFICE MASTER SPECIFICATIONS. IT FOLLOWS GUIDELINES ESTABLISHED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE, AND THEREFORE MAY BE USED WITH MOST MASTER SPECIFICATION SYSTEMS WITH MINOR EDITING.

EDIT CAREFULLY TO SUIT PROJECT REQUIREMENTS. MODIFY AS NECESSARY AND DELETE ITEMS THAT ARE NOT APPLICABLE. VERIFY THAT REFERENCED SECTION NUMBERS AND TITLES ARE CORRECT. (NUMBERS AND TITLES REFERENCED ARE BASED ON *MASTERFORMAT*, 2004 EDITION).

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING 01 25 13 – PRODUCT SUBSTITUTION PROCEDURES, SECTIONS 01 33 00 – SUBMITTAL PROCEDURES, 01 62 00 – PRODUCT OPTIONS, 01 66 00 – PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01 74 00 – CLEANING AND WASTE MANAGEMENT, 01 77 00 – CLOSEOUT PROCEDURES, AND 01 78 00 – CLOSEOUT SUBMITTALS. CLOSE COORDINATION WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN THESE SECTIONS, ADDITIONAL INFORMATION SHOULD BE INCLUDED UNDER THE APPROPRIATE ARTICLES.

THIS IS AN OPEN PROPRIETARY SPECIFICATION ALLOWING USERS THE OPTION OF APPROVING OTHER MANUFACTURERS THAT COMPLY WITH THE CRITERIA SPECIFIED HEREIN.

NOTES TO THE SPECIFIER ARE CONTAINED IN BOXES AND SHOULD BE DELETED FROM FINAL COPY.

OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G. [35] [40] [45]. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS.

ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED BLANK SPACES, E.G. _____ .

OPTIONAL PARAGRAPHS REQUIRING SELECTION OF ONE OF THE OPTIONS ARE SEPARATED BY "OR" WITHIN A BOX, E.G.

OR

BOLD FACE TYPE IDENTIFIES OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE INCLUDED OR DELETED DEPENDING ON PROJECT REQUIREMENTS. CONVERT THE BOLD FACE TYPE TO REGULAR TYPE WHEN INCLUDING THESE PARAGRAPHS OR FEATURES.

REVISE FOOTER TO SUIT PROJECT/OFFICE REQUIREMENTS.

ELECTRONIC VERSIONS OF THIS SPECIFICATION UTILIZE AUTOMATIC PARAGRAPH NUMBERING.

WHEN EDITING IS COMPLETE, DELETE ALL TEXT ON THIS PAGE, THEN REMOVE THE SECTION BREAK AT THE TOP OF THE NEXT PAGE TO REMOVE THIS PAGE FROM THE DOCUMENT.

Milgard Ultra™ Series Fiberglass Patio Doors - 3-Part Specification

3000 SERIES FIBERGLASS

Section 08 16 13 AND 08 16 73

FIBERGLASS DOORS (SWING) & SLIDING COMPOSITE DOORS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Fiberglass framed glass doors with painted exterior and interior finish:
   1. **French [inswing] [and] [outswing] doors.**
   2. **Sliding doors.**

B. Related Sections:

INSERT APPROPRIATE SECTION NUMBERS AND TITLES BELOW FOR DOOR FLASHING, INSTALLATION SEALANT AND FINISHING OF INTERIOR DIVIDED LITE GRIDS IF SPECIFIED.

   1. __ __ __ - _____.
   2. __ __ __ - _____.
   3. **08 54 13 - Fiberglass Windows.**
   4. __ __ __- _____**. Finishing of interior divided lite grids.**

INCLUDE APPROPRIATE LANGUAGE BELOW IF PRODUCTS SPECIFIED IN THIS SECTION ARE TO BE BID AS ALTERNATES. OTHERWISE DELETE FOLLOWING PARAGRAPH.

C. Alternates:
   1. Reference Section 01 23 00 – Alternates.

1.02 SUBMITTALS

A. Reference Section 01 33 00 – Submittal Procedures; submit following items:
   1. Product Data.
   2. Shop Drawings: Include door schedule, door elevations, sections and details, and multiple unit assembly details.
   3. Samples:
      a. Color Samples: Minimum 1x4 inch (25x100 mm) paint color chips on fiberglass substrate.
      b. Glass, showing specified tint color.
   4. Quality Assurance/Control Submittals:
      a. Qualifications: Proof of manufacturer's qualifications.
      b. U-Factor and structural rating charts required for AAMA and NFRC labeling requirements.
      c. Manufacturer's Installation Instructions.

B. Closeout Submittals: Reference Section 01 78 00 – Closeout Submittals; submit following items:
   1. Temporary labels marked to identify doors that labels were applied to.
   2. Maintenance instructions.
   3. Special Warranties.

1.03 QUALITY ASSURANCE

A. Overall Standards: Comply with ANSI/AAMA/101/I.S.2, except as otherwise noted herein.

B. Qualifications:
   1. Manufacturer Qualifications:
      a. Minimum five years experience in producing fiberglass doors.
      b. Member AAMA, NFRC.

INSERT LOCAL REGULATORY REQUIREMENTS BELOW.

C. Regulatory Requirements:

D. Certifications for insulated glass doors:
1. AAMA: Doors shall be Silver Label certified with label attached to frame per AAMA requirements.
2. NFRC: Doors shall be NFRC certified with temporary U-factor label applied to glass and an NFRC tab added to permanent AAMA frame label.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Reference Section 01 66 00 – Product Storage and Handling Requirements.

B. Follow manufacturer's instructions on label applied to doors.

1.05 WARRANTY

SELECT "RESIDENTIAL" WARRANTY BELOW FOR OWNER OCCUPIED SINGLE FAMILY RESIDENTIAL AND OWNER OCCUPIED CONDOMINIUM PROJECTS. SELECT "COMMERCIAL" WARRANTY FOR NON-OWNER OCCUPIED CONDOMINIUMS, COMMERCIAL, AND MULTI-FAMILY PROJECTS.

A. Residential Special Warranty:
1. Full Lifetime Warranty including glass breakage to original homeowner.
2. Transferability:
   a. Permit unlimited transfer of ownership in first ten years.
   b. Upon first transfer of ownership, warranty period shall become ten years from date of original purchase.
3. Guarantee windows against defects in materials and workmanship including costs for parts and labor. Wood veneer surfaces are required to be finish coated per manufacturer's instructions.

OR

A. Commercial Special Warranty:
1. 10 year warranty.
2. Guarantee windows against defects in materials and workmanship including costs for parts and labor. Wood veneer surfaces are required to be finish coated per manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Milgard Manufacturing, Inc.
1010 54th Avenue East
Tacoma, WA 98424

Tel: (800) MILGARD (645-4273)
Fax: (253) 926-0848
Website: http://www.milgard.com/

INSERT NAME, ADDRESS AND PHONE NUMBERS OF MANUFACTURER'S REPRESENTATIVE BELOW.

1. Manufacturer's Representative:
   _____
   _____
   _____

   Tel: _____
   Fax: _____
   E-mail: _____

B. Door Series: Milgard Ultra™.

C. Substitutions: Reference Section 01 25 13 – Product Substitution Procedures.

2.02 MATERIALS

A. Fiberglass: AAMA 305 glass fiber reinforced thermoset profile.

VERIFY THAT DOOR FLASHING MATERIAL AND INSTALLATION SEALANT IS SPECIFIED IN APPROPRIATE SECTIONS.

Milgard Ultra™ Series Fiberglass Patio Doors - 3-Part Specification

3000 SERIES FIBERGLASS

2.03 GENERAL PERFORMANCE REQUIREMENTS

A. Thermal Performance: Comply with NFRC 100.

B. Air Leakage, Water Resistance, Structural Test: Comply with ANSI/AAMA/101/I.S.2.

C. Forced-Entry Resistance: Comply with ASTM F 842-04.

2.04 DOOR TYPES

SELECT FOLLOWING DOOR TYPES BASED ON PROJECT REQUIREMENTS. DELETE DOOR TYPES NOT USED. VERIFY THAT DRAWINGS SHOW PANEL ARRANGEMENT AND OPERATING PANELS FOR EACH OPENING.

A. French Door - Inswing 3642 and 3662 Series, with [nail fin] [Z-Bar flush fin retrofit trim]:
   1. Frame: [4-9/16 inch (116 mm)] [6-9/16 inch (167 mm)] deep, multi-chambered fiberglass pultrusion with optional snap in nail fin setbacks of 1-3/8 inch (35 mm) and 1 inch (25 mm).
   2. Panel Frame:
      a. Top Rail: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
      b. Bottom Rail: Minimum 1-3/4 by 8-5/8 inch (44 by 219 mm) multi-chambered fiberglass pultrusion.
      c. Stiles: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
   3. Sill: [4-9/16 inch (116 mm) deep frame: 5-15/16 by 1-5/8 inch high (151 by 41 mm high)] [6-9/16 inch (167 mm) deep frame: 7-15/16 by 1-5/8 inch high (202 by 41 mm high)] multi-chambered fiberglass pultrusion.
   4. Sight lines: Equal for doors and fixed panels.
   5. Structural Class: SGD-C45 (2 panel only).
   6. Hardware:
      a. Lock: Inside and outside lever operated latch and One Motion 3 point locking system, with 2 tapered hooks and interior thumb turn deadbolt.
      b. Keyed exterior cylinder lock, Schlage compatible.
      c. Hinges: 2-way adjustable lift-off hinges; finish to match handle set.
   7. Weatherstripping: Foam filled bulb seal.
      a. Sill Sweep: Rubber dual-fin sweep.

B. French Door - Outswing 3623 Series, with [nail fin] [Z-Bar flush fin retrofit trim]:
   1. Frame: [4-9/16 inch (116 mm)] [6-9/16 inch (167 mm)] deep, multi-chambered fiberglass pultrusion with optional snap in nail fin setbacks of 1-3/8 inch (35 mm) and 1 inch (25 mm).
   2. Panel Frame:
      a. Top Rail: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
      b. Bottom Rail: Minimum 1-3/4 by 8-5/8 inch (44 by 219 mm) multi-chambered fiberglass pultrusion.
      c. Stiles: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
      e. Reinforcement: Extruded aluminum profiles at corners and lock. Corner reinforcement shall engage rails minimum 4 inches (100 mm) and stiles minimum 10 inches (255 mm).
   3. Sill: [4-9/16 inch (116 mm) deep frame: 5-15/16 by 1-13/16 inch high (151 by 46 mm high)] [6-9/16 inch (167 mm) deep frame: 7-15/16 by 1-13/16 inch high (202 by 46 mm high)] multi-chambered fiberglass pultrusion.
   4. Sight lines: Equal for doors and fixed panels.
   5. Structural Class: SGD-C30 (2 panel only).
   6. Hardware:
      a. Lock: Inside and outside lever operated latch and 2 point locking rod to head and sill, with interior thumb turn dead bolt.
      b. Keyed exterior cylinder lock, Schlage compatible
      c. Hinges: 2-way adjustable; finish to match lock.
   7. Weatherstripping: Foam filled bulb seal.
      a. Sill Sweep: Rubber dual-fin sweep.

C. Sliding Door - 3626 Series, with [nail fin] [Z-Bar flush fin retrofit trim]:
   1. Frame: [4-9/16 inch (116 mm)] deep, multi-chambered fiberglass pultrusion with optional snap in nail fin setbacks of 1-3/8 inch (35 mm) and 1 inch (25 mm).
   2. Panel Frame:
      a. Top Rail: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
      b. Bottom Rail: Minimum 1-3/4 by 8-5/8 inch (44 by 219 mm) multi-chambered fiberglass pultrusion.
      c. Stiles: Minimum 1-3/4 by 4-3/16 inch (44 by 106 mm) multi-chambered fiberglass pultrusion.
      d. Reinforcement: Extruded aluminum profiles at corners and lock. Corner reinforcement shall engage rails minimum 4 inches (100 mm) and stiles minimum 10 inches (255 mm).
   3. Sill: [4-9/16 inch (116 mm) deep frame: 5-15/16 by 1-13/16 inch high (151 by 46 mm high)] multi-chambered fiberglass pultrusion.
   4. Sightlines: Equal for operating and fixed panels.
   5. Structural Class: SGD-C30 (2 panel only).
   6. Hardware:
      a. Handle and Lock: Inside and outside pull with lever operated 2 point jamb lock.
      b. Keyed exterior cylinder lock, Schlage compatible.
      c. Rollers: two sets of dual composite nylon, 1-1/2 inch (38 mm) diameter, rollers on raised monorail aluminum track.
   7. Weatherstripping: Fin seal polypropylene pile.

2.05 GLAZING

A. Insulated Glass Units: ASTM E 774, Class A, minimum 7/8 inch (22 mm) thick overall:
   1. Glazing Type: [Clear/Clear] [Clear/SunCoat® Low-E] [Clear/SunCoat® Low-E, argon gas filled] [Clear/SunCoatMAX® Low-E] [Clear/SunCoatMAX® Low-E, argon gas filled] [Clear/Hardcoat Low-E] [Clear/Hardcoat Low-E, argon gas filled].
   2. Spacer Type: EdgeGardMAX™ High performance foam based warm edge spacer system.

MOST COMMON TYPES OF INSULATED UNITS ARE INCLUDED ABOVE, BUT SEVERAL OTHER TYPES INCLUDING TINTED, REFLECTIVE, OBSCURE, WIRE, AND LAMINATED ARE AVAILABLE FOR SPECIAL APPLICATIONS. SELECT DESIRED TYPES FROM MILGARD WEBSITE AND SPECIFY IN LIEU OF, OR IN ADDITION, TO THE ABOVE WITH ALL NECESSARY CRITERIA SUCH AS TINT COLORS AND OBSCURE PATTERNS. IF MORE THAN ONE TYPE OF GLAZING IS REQUIRED FOR THE PROJECT, BE CERTAIN THAT TYPE FOR EACH DOOR IS CLEARLY NOTED ON DRAWINGS OR IN DOOR SCHEDULE.

2.06 SIMULATED DIVIDED LITE GRIDS :

SELECT DESIRED GRID TYPE, IF ANY, FROM THE FOLLOWING LIST AND DELETE THOSE NOT USED.
STANDARD HORIZONTAL/VERTICAL GRID PATTERN WILL BE PROVIDED UNLESS OTHER GRID PATTERNS ARE SHOWN ON THE DRAWINGS.
CERTAIN GRID PATTERNS MAY NOT BE AVAILABLE WITH ONE OR THE OTHER BAR TYPES IN THE FOLLOWING PARAGRAPHS - CONSULT MILGARD FOR DESIGN OTHER THAN STANDARD PATTERNS.

A. Grid Types:
   1. Flat Internal Grid: 5/8 inch (16 mm) wide aluminum bar internal (between the glass) grid.
   2. Sculptured Internal Grid: 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid.
   3. SDL Vintage Grid: 1-1/8 inch (29 mm) wide profiled painted wood strips applied to interior glass, 7/8 inch (22 mm) wide aluminum box spacer internal grid, and 1-1/8 inch (29 mm) wide trapezoidal fiberglass bar applied to exterior glass.
   4. SDL Vintage Grid: 3/4 inch (19 mm) wide profiled painted wood strips applied to interior glass, 5/8 inch (16 mm) wide aluminum box spacer internal grid, and 3/4 inch (19 mm) wide trapezoidal fiberglass bar applied to exterior glass.
   5. SDL Craftsman Grid: 1-1/8 inch (29 mm) wide profiled painted wood strips applied to interior glass, 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid.
   6. SDL Legacy Grid: 1-1/16 inch (27 mm) wide sculptured aluminum bar internal grid, and 1-1/8 inch (29 mm) wide trapezoidal fiberglass bar applied to exterior glass.

2.07 INSECT SCREENS:

A. Retractable Door Screen:
   1. Single canister side-coiling counter balanced screen system.
   2. Extruded aluminum track.
   3. Weatherstripping: Polypropylene pile, non-fin.

4. **Extruded aluminum housing.**
5. **Screen Cloth: Charcoal colored fiberglass mesh.**

B. Sliding Door Screen (not available for out-swing door):
1. **Frame: Extruded aluminum, 2 by 13/16 inches (51 by 21 mm).**
2. **Hardware:**
   a. **Lock: Lever action type.**
   b. **Rollers: 2 adjustable nylon rollers at top, and 2 adjustable nylon rollers at bottom.**
3. **Screen Cloth: [Charcoal colored fiberglass mesh] [Optional PureView™ Low-visiblility fiberglass mesh].**

2.08 FABRICATION

A. Fabricate frames and panels with milled and butted joints and mechanically joined corners. Trim and finish corners to match adjacent surfaces.

B. Factory exterior glaze with snap-on fiberglass glazing stops matching frame finish. Units shall be reglazeable without dismantling panel framing.

2.09 FINISH

A. Frame and Panel Color:
1. Exterior: [Cranberry] [Matte Black] [Hunter Green] [Silver Pearl] [Brownstone] [Tan] [White] [Sand] baked on enamel.
2. Interior: Painted finish.

B. Simulated Divided Lite Grids:
1. **Interior Wood Strips: Unfinished.**
2. **Internal Bars: Mill finished aluminum.**
3. **Exterior Fiberglass Bars: Baked on enamel; match frame and panel exterior color.**

C. Hardware:
1. **French Door: [Polished Brass] [Polished Chrome] [Antique Brass] [Satin Chrome] [Bronze] [Oil Rubbed Bronze] [White].**
2. **Sliding Door Interior: [Polished Brass] [Polished Chrome] [Antique Brass] [Satin Chrome] [Bronze] [Oil Rubbed Bronze] [White].**
3. **Sliding Door Exterior: [White] [Sand] [Tan] [Hunter Green] [Brownstone].**

D. Retractable Screen:
1. **Inswing Door: Match exterior frame and panel color. Not available in Cranberry or Silver Pearl.**
2. **Outswing Door: [White] [Brownstone] [Tan] [Matte Black].**
3. **Sliding Door: Match exterior frame and panel color. Not available in Cranberry or Silver Pearl.**

E. Sliding Screen:
1. **Inswing Door: Match exterior frame and panel color.**
2. **Sliding Door: Match exterior frame and panel color.**

2.10 SOURCE QUALITY CONTROL

A. Inspect doors in accordance with manufacturer's Quality Control Program as required by AAMA Silver Label certification.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine openings in which doors will be installed.
1. **Verify that fasteners in framed walls are fully driven and will not interfere with door installation.**
2. **Verify that sill is flat and level.**

B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.02 INSTALLATION

INSTALLATION INSTRUCTIONS ARE ADEQUATE FOR NORMAL INSTALLATION CONDITIONS IN FRAMED CONSTRUCTION. MASONRY WALLS AND UNUSUAL CONDITIONS MAY REQUIRE ADDITIONAL INFORMATION IN THIS ARTICLE.

A. Install doors in framed walls in accordance with manufacturer's installation instructions.
   1. Flash head and jambs in accordance with AAMA 2400.

B. Do not remove temporary labels.

C. Install insect screens on operable panels.

3.03 ADJUSTING

A. Adjust operating panels and hardware for smooth operation and tight fit with weatherstripping.

3.04 CLEANING

A. Reference Section 01 74 00 – Cleaning and Waste Management.

B. Remove temporary labels and retain for Closeout Submittals.

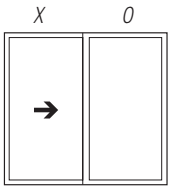
C. Clean soiled surfaces and glass using a mild detergent and warm water solution with soft, clean cloths.

END OF SECTION

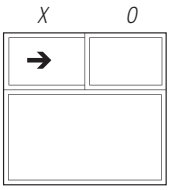
Issue Date: February 16, 2009
Specification subject to change. For the most up to date information visit milgard.com.

3110 & 3110U
Horizontal Sliding Windows

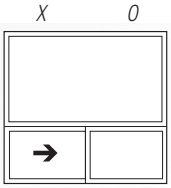
3000 SERIES FIBERGLASS



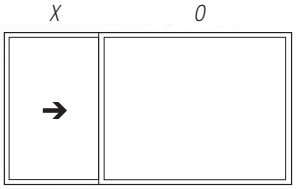
Half-vent



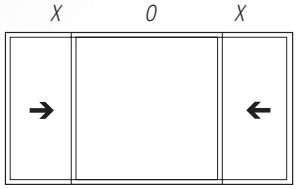
Half-vent above



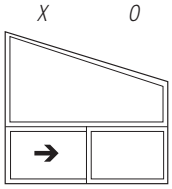
Half-vent below



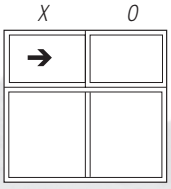
Single-vent



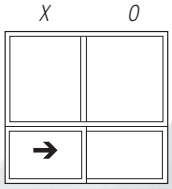
Double-vent



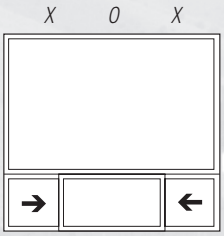
Half-vent below gable above



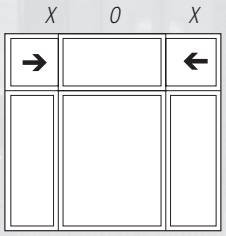
Half-vent above 2-lites below



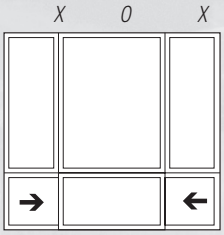
Half-vent below 2-lites above



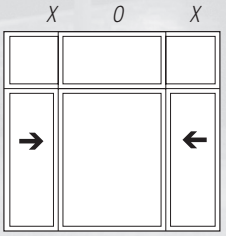
Double-vent below



Double-vent above 3-lites below



Double-vent below 3-lites above



Double-vent below 3-lites above

- **HALF-VENT**
  - Min 2⁰1⁴ Max 6⁰6⁰
- **HALF-VENT ABOVE**
  - Min 2⁰2⁴ Max 6⁰6⁰
- **HALF-VENT BELOW**
  - Min 2⁰2⁴ Max 6⁰6⁰
- **SINGLE-VENT**
  - Min 2⁶1⁴ Max 6⁰6⁰
- **DOUBLE-VENT**
  - Min 5⁰1⁴ Max 12⁰6⁰
- **HALF-VENT BELOW GABLE**
  - Min 2⁰2⁴ Max 6⁰8⁰
- **HALF-VENT ABOVE 2-LITES**
  - Min 2⁰2⁴ Max 6⁰6⁰
- **HALF-VENT BELOW 2-LITES**
  - Min 2⁰2⁴ Max 6⁰6⁰
- **DOUBLE-VENT BELOW**
  - Min 5⁰2⁴ Max 8⁰6⁰
- **DOUBLE-VENT ABOVE**
  - Min 5⁰2⁴ Max 8⁰6⁰
- **DOUBLE-VENT BELOW 3-LITES**
  - Min 5⁰2⁴ Max 8⁰6⁰
- **DOUBLE-VENT ABOVE 3-LITES**
  - Min 5⁰2⁴ Max 8⁰6⁰

Half-vent
Minimum egress 4⁰4⁰

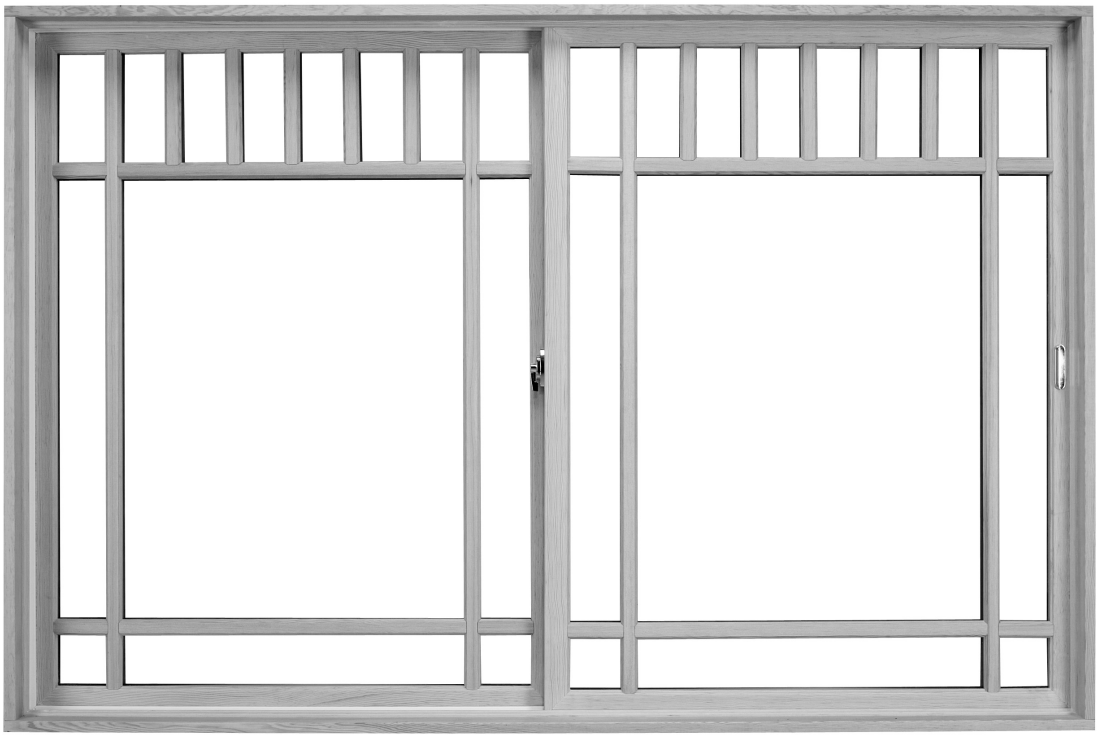
Double-vent
Minimum egress 8⁰3⁶ with 24" vent set.

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications.

Windows over 40 square feet shipped open for field glazing. Varies by location.

3110 & 3110U
Horizontal Sliding Windows

3000 SERIES FIBERGLASS



(as shown with simulated divided lite grid)

The 3110 WoodClad Series and 3110U Ultra Series Fiberglass Horizontal Sliding Windows blend the energy efficiency and overall aesthetic appeal of wood windows with the low maintenance and structural integrity of pultruded fiberglass. Our available full finish wood liners are designed for both 2x4 and 2x6 construction. We can add jamb extensions to achieve virtually any custom size. Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The windows can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

The 3110 and 3110U Series is designed as an inside slider (the sliding panel, or "vent', slides inside the stationary panel). The stationary panel and vent are equal in size in order for the vent to open completely. Horizontal sliding windows can be used alone or in tandem with radius, gable or picture windows for vent below and vent above options.

COMPONENTS

COMPOSITE FRAME

Milgard's WoodClad composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

The pultruded fiberglass frame components are made from reinforced pultruded fiberglass with a .080" structural wall thickness. The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

3110 & 3110U
Horizontal Sliding Windows

3000 SERIES FIBERGLASS

From inside of frame to nail flange is 2-7/8", and from outside of window frame to include nail fin is 1-3/8", to give you a 4-1/4" overall frame depth.

Joined frame and liners are available in standard widths of 4-9/16" or 6-9/16" for standard wall construction. Other custom widths are also available, subject to engineering review.

WOOD JAMB EXTENSIONS
Wood jamb extensions are an optional feature with all fiberglass windows. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL-ON FIN
A 1-1/4" pre-punched, flexible nail flange extends around the perimeter frame, securing the window in rough openings. The 3110 and 3110U Series is available without nailing fin or with Z-Bar™ flush fin retrofit trim for use as a replacement window.

GLAZING MATERIAL
Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS
Insulating dual glazed panes, 7/8" in overall thickness, are butyl sealed for energy efficiency, with Milgard SunCoat™ Low-E insulating glass standard in all glazing units.

WEATHERSTRIPPING
Foam filled seal and silicone-treated, water-repellent polypropylene fin seal weatherstripping provides a durable, weather-tight seal. This weatherstripping is installed around the entire perimeter of the vent panel.

ROLLER ASSEMBLY
Adjustable self-lubricating, wear resistant, dual nylon rollers provide flexible, free-wheeling, smooth and silent operation. Rollers are engineered for reduction of friction and elimination of torque on the ventilator frame.

LOCKING ASSEMBLY
Cam lock or Positive Action™ Lock mechanism may be specified on each series as an option.

WEEP SYSTEM
Primary weep system is located in hollow sill construction. Baffled weep holes drain water from track and help prevent blow-back, or water seeping to the inside caused by a combination of wind and rain. A secondary baffled weep system is located in the pultruded fiberglass glazing bead.

VENT PANEL
The ventilator has an "L"-shaped lip that fully interlocks with the vertical meeting rail, adding security and preventing weather penetration. Its roller assembly rides on a monorail track for easy operation and durability. This raised track in the frame sill helps keep the ventilator system free from interference by foreign particles that may collect in the sill.

SCREEN
Screen frames are cambered aluminum, reinforced with rigid plastic corner clips. Screen frames are available to match the exterior color. Optional PureView fiberglass screen mesh is low visibility, strong, durable and easy to replace. Two pulls located on the screen allow you to install from inside of house.

SIZING
All windows are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES
Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

Note:
- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

GRIDS
Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high. A 4'0" x 3'0" single-hung would be four wide x four high because of the intermediate horizontal bar.

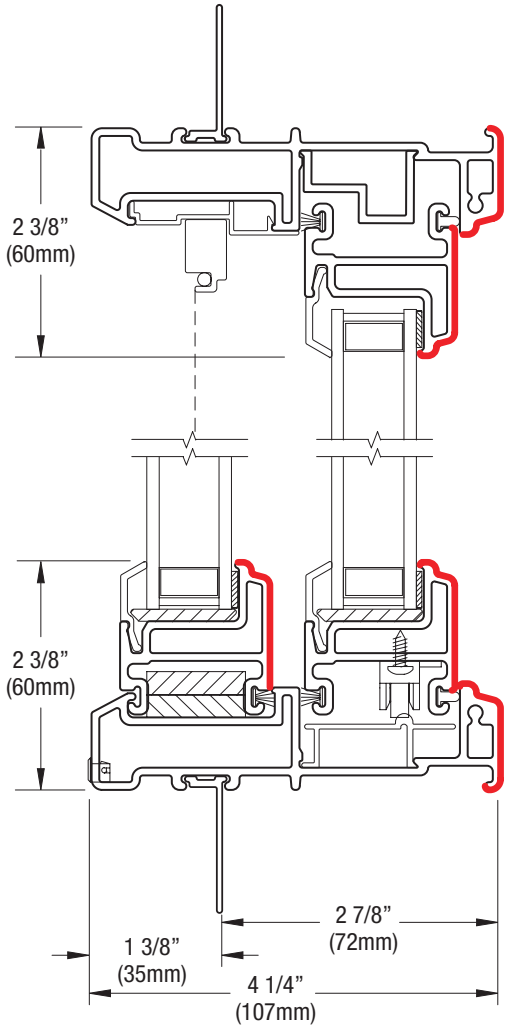
BRICKMOULD
A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

HARDWARE
Hardware is available in both painted and metal finishes.

3110 WoodClad Assembly Drawing

3000 SERIES FIBERGLASS

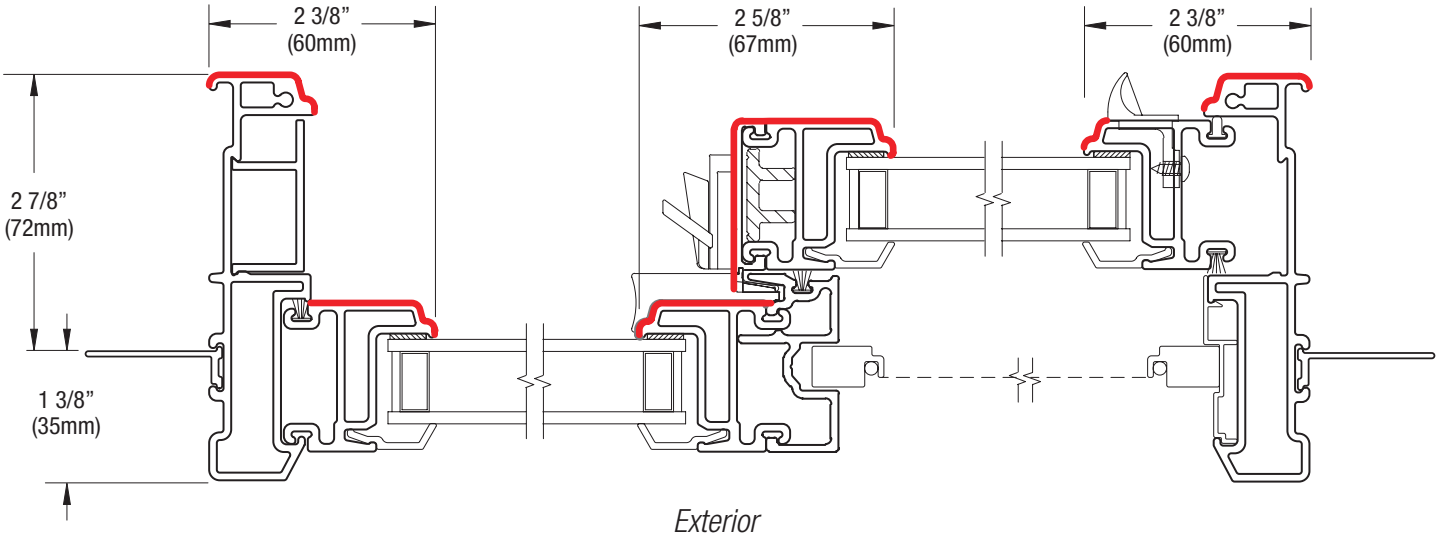
Vertical View



Exterior

Red indicates wood veneer

Horizontal View

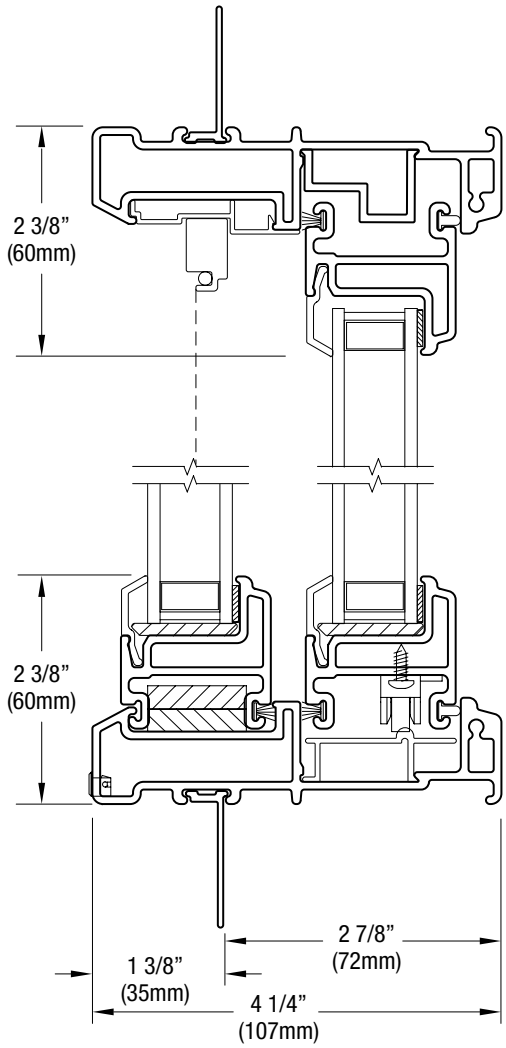


Exterior

Scale: 6" = 1' (1/2 scale)

3110U Ultra Assembly Drawing

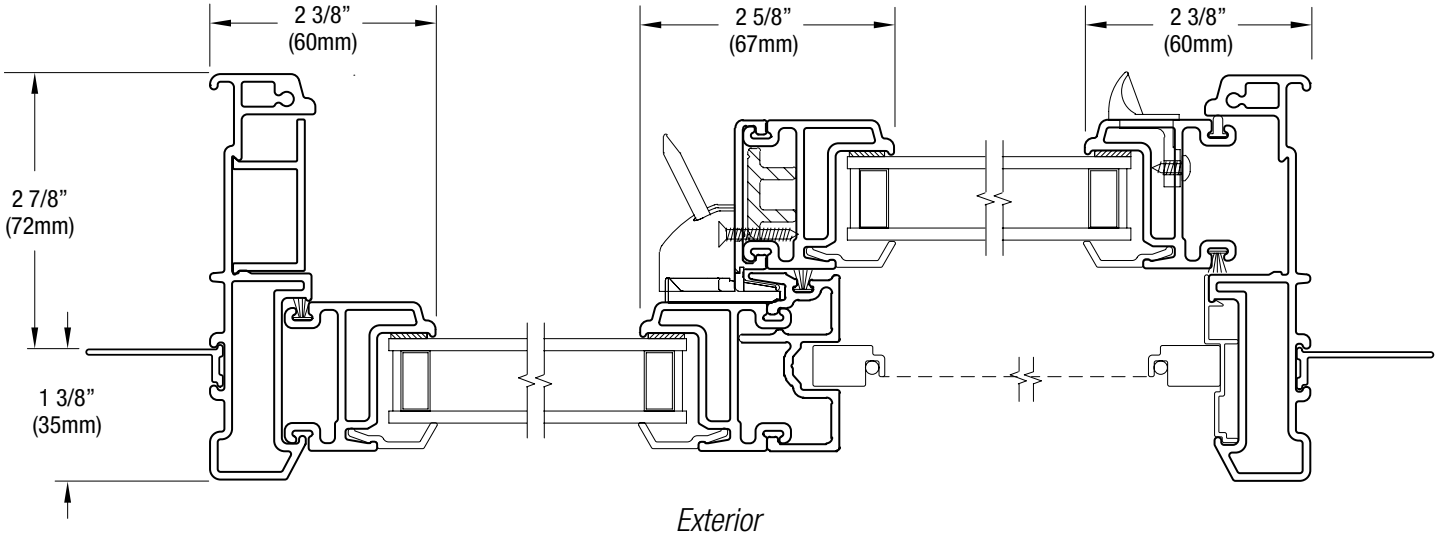
3000 SERIES FIBERGLASS



Vertical View

Exterior

Horizontal View



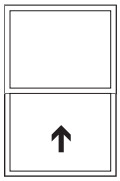
Exterior

3110/3110U-5
FEBRUARY 2009

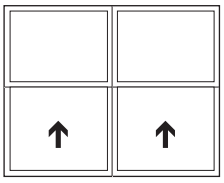
Scale: 6" = 1' (1/2 scale)

3210 & 3210U
Vertical Sliding, Single-Hung Windows

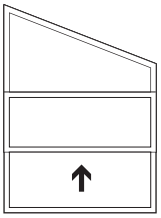
3000 SERIES FIBERGLASS



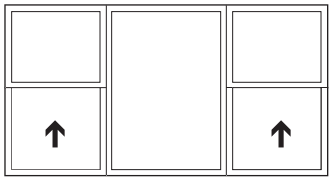
Single-Hung



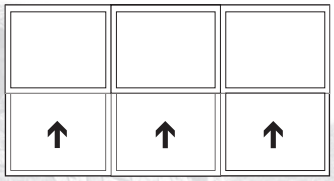
Double Single-Hung



Gable Top Single-Hung



Double Single-Hung/Center Lite



Triple Single-Hung

- SINGLE-HUNG
  - Min $1^{6}2^{6}$ Max $4^{0}7^{6}$
- DOUBLE SINGLE-HUNG
  - Min $3^{0}2^{6}$ Max $8^{0}7^{6}$
- DOUBLE SINGLE-HUNG W/PICTURE
  - Min $4^{0}2^{6}$ Max $12^{0}7^{6}$
- TRIPLE SINGLE-HUNG
  - Min $4^{6}2^{6}$ Max $9^{0}7^{6}$

Minimum egress is $3^{0}5^{0}$ with a 30" bar set or $2^{6}6^{0}$ with a 36" bar set.

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications.

Windows over 40 square feet shipped open for field glazing. Varies by location.

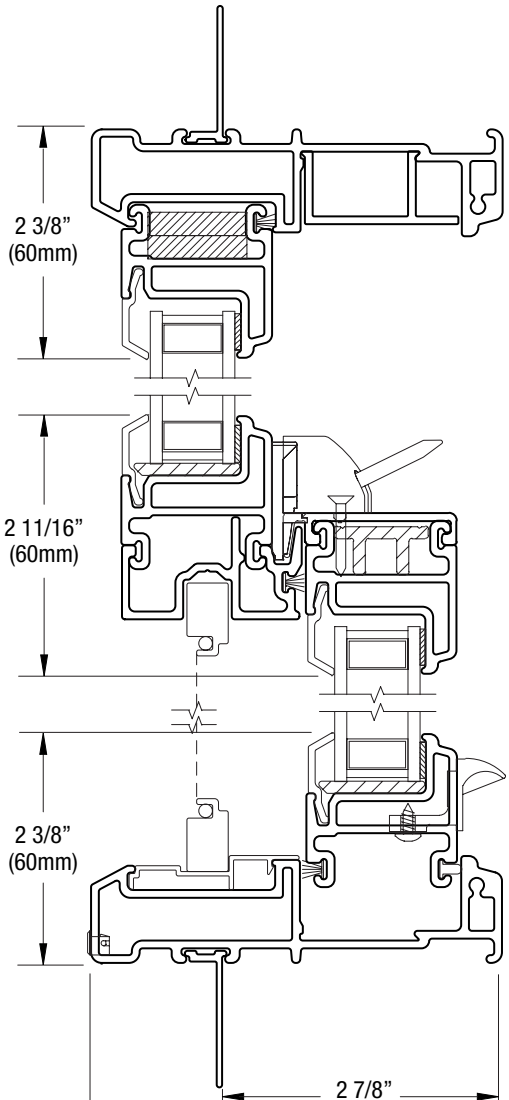
WOOD FINISHING – WOODCLAD SERIES

The unfinished wood interior surfaces must be finished and sealed promptly for best results and protection. For maximum protection, finish the interior wood surfaces prior to, or immediately after installation. If the product is to be stored for any length of time before installation, avoid exposure to any moisture conditions. Do not expose the unfinished wood to high heat, high humidity, or excessive construction moisture conditions. Unfinished wood surfaces subject to water damage at the jobsite, or left unfinished before/after installation so that the wood interior surfaces become stained or damaged, will not be considered as "defective in materials or workmanship" under the terms of Milgard's Warranty. Do not apply any finishes to the weatherstrip.

3210U Ultra Assembly Drawing

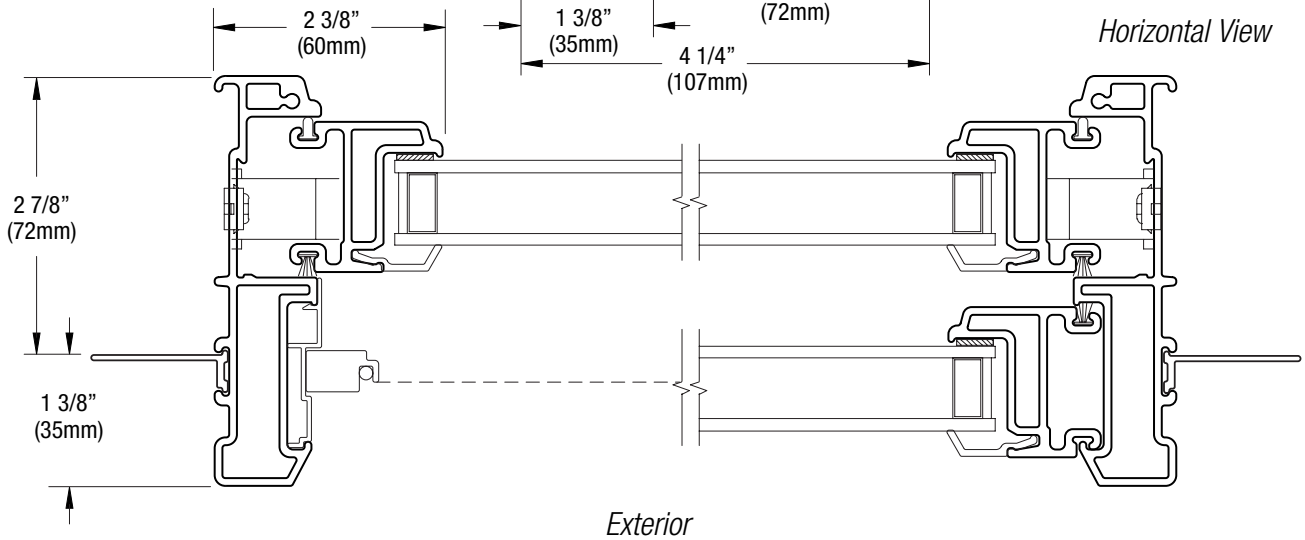
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



Exterior

Scale: 6" = 1' (1/2 scale)

3210/3210U-5
FEBRUARY 2009

3210 & 3210U
Vertical Sliding, Single-Hung Windows

3000 SERIES FIBERGLASS

The 3210 WoodClad Series and 3210U Ultra Series Fiberglass Vertical Sliding Windows blend the energy efficiency and overall aesthetic appeal of wood windows with the low maintenance and structural integrity of pultruded fiberglass. Our available full finish wood liners are designed for both 2x4 and 2x6 construction. We can make your jamb extensions virtually any custom size. Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The windows can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

The 3210 and 3210U Series is designed as an inside slider (the bottom slider, or "vent", slides inside the stationary panel). The stationary panel and vent are equal in size in order for the vent to open for maximum ventilation. Vertical sliding, single-hung windows can be used alone or in tandem with radius, gable or picture windows for multiple window installations.

COMPONENTS

COMPOSITE FRAME

Milgard's WoodClad composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

The pultruded fiberglass frame components are made from reinforced pultruded fiberglass with a .080" structural wall thickness. The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

3210 & 3210U
Vertical Sliding, Single-Hung Windows

3000 SERIES FIBERGLASS

From inside of frame to nail flange is 2-7/8", and from outside of window frame to include nail fin is 1-3/8", to give you a 4-1/4" overall frame depth.

Joined frame and liners are available in standard widths of 4-9/16" or 6-9/16" for standard wall construction. Other custom widths are also available, subject to engineering review.

WOOD JAMB EXTENSIONS
Wood jamb extensions are an optional feature with all fiberglass windows. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL-ON FIN
A 1-1/4" pre-punched, flexible nail flange extends around the perimeter frame, securing the window in rough openings. The 3110 and 3110U Series is available without nailing fin or with Z-Bar™ flush fin retrofit trim for use as a replacement window.

GLAZING MATERIAL
Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS
Insulating dual glazed panes, 7/8" in overall thickness, are butyl sealed for energy efficiency, with Milgard SunCoat™ Low-E insulating glass standard in all glazing units.

WEATHERSTRIPPING
Foam filled seal and silicone-treated, water-repellent polypropylene fin seal weatherstripping provides a durable, weather-tight seal. This weatherstripping is installed around the entire perimeter of the vent panel.

BALANCER ASSEMBLY
The ventilator operates on concealed block and tackle balancers, allowing the vent to remain open in any position. The balancer is installed in the jamb on each side of the window.

LOCKING ASSEMBLY
Cam lock or Positive Action™ Lock mechanism may be specified on each series as an option.

WEEP SYSTEM
Primary weep system is located in hollow sill construction. Baffled weep holes drain water from track and help prevent blow-back, or water seeping to the inside caused by a combination of wind and rain. A secondary baffled weep system is located in the pultruded fiberglass glazing bead.

VENT PANEL
The ventilator has an "L"-shaped lip that fully interlocks with the horizontal meeting rail, adding security and preventing weather penetration.

SCREEN
Screen frames are cambered aluminum, reinforced with rigid plastic corner clips. Screen frames are available to match the exterior color. Optional PureView fiberglass screen mesh is low visibility, strong, durable and easy to replace. Two pulls located on the screen allow you to install from inside of house.

SIZING
All windows are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES
Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

Note:
- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

GRIDS
Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high. A 4'0" x 3'0" single-hung would be four wide x four high because of the intermediate horizontal bar.

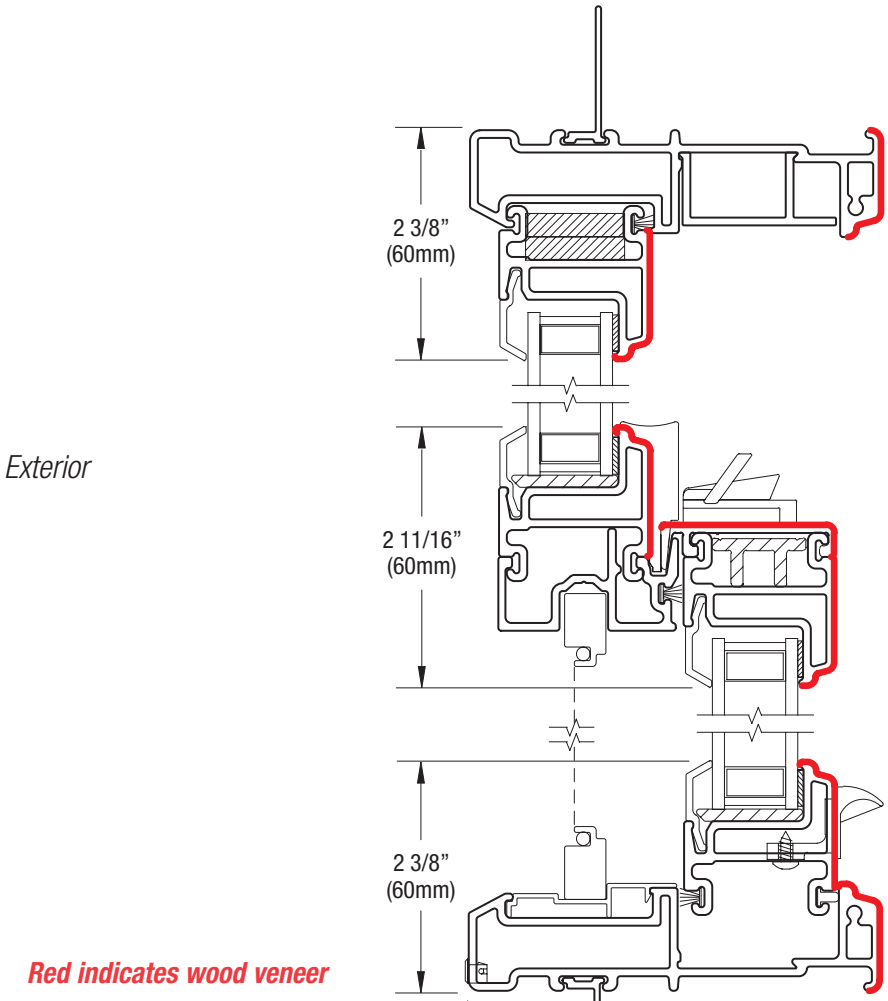
BRICKMOULD
A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

HARDWARE
Hardware is available in both painted and metal finishes.

3210 WoodClad Assembly Drawing

3000 SERIES FIBERGLASS

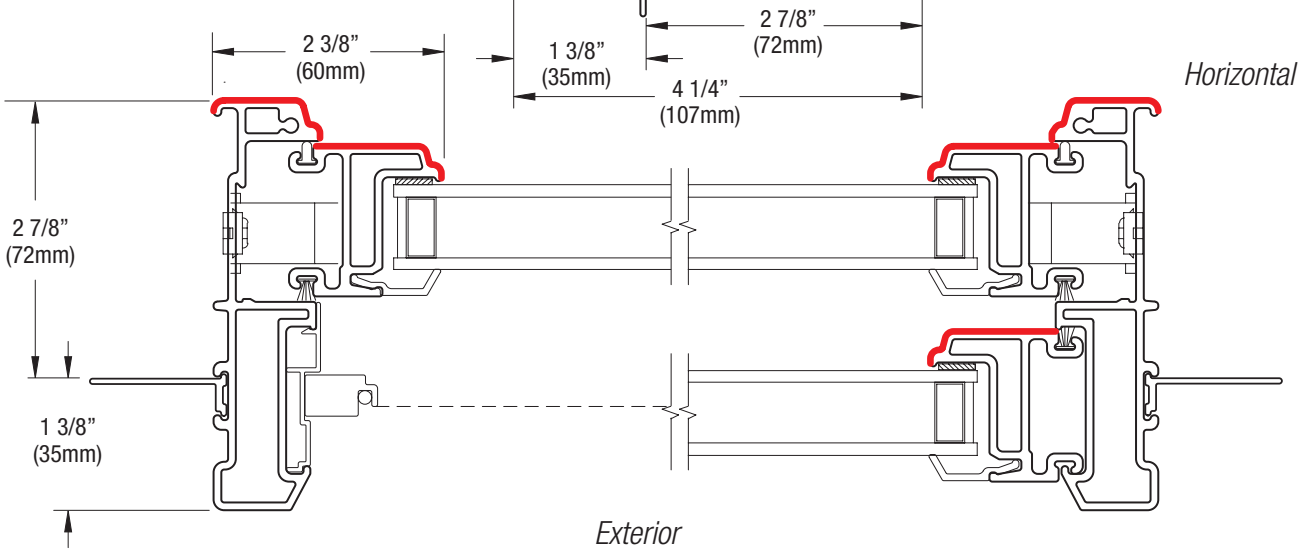
Vertical View



Exterior

Red indicates wood veneer

Horizontal View

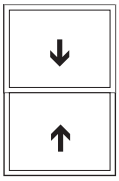


Exterior

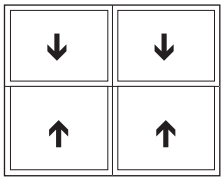
Scale: 6" = 1' (1/2 scale)

3275 & 3275U, 3285 & 3285U
Vertical Sliding, Double-Hung Windows

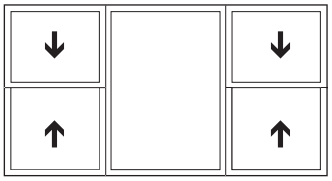
3000 SERIES FIBERGLASS



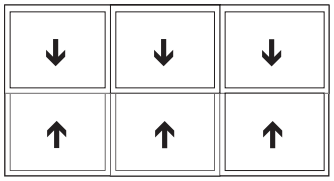
Double-Hung



Double Double-Hung



Double Double-Hung/Center Lite



Triple Double-Hung

- **DOUBLE-HUNG**
  - Min $1^{6}2^{9}$ Max $4^{0}7^{0}$
- **DOUBLE DOUBLE-HUNG**
  - Min $3^{0}2^{9}$ Max $8^{0}7^{0}$
- **TRIPLE DOUBLE-HUNG**
  - Min $4^{6}2^{9}$ Max $12^{0}7^{0}$

Minimum egress is $3^{0}5^{0}$ with a center bar set or $2^{6}6^{6}$ with a center bar set.

DH vent set: 1/2 window height

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications.

Windows over 40 square feet shipped open for field glazing. Varies by location.

WOOD FINISHING – WOODCLAD SERIES

The unfinished wood interior surfaces must be finished and sealed promptly for best results and protection. For maximum protection, finish the interior wood surfaces prior to, or immediately after installation. If the product is to be stored for any length of time before installation, avoid exposure to any moisture conditions. Do not expose the unfinished wood to high heat, high humidity, or excessive construction moisture conditions. Unfinished wood surfaces subject to water damage at the jobsite, or left unfinished before/after installation so that the wood interior surfaces become stained or damaged, will not be considered as "defective in materials or workmanship" under the terms of Milgard's Warranty. Do not apply any finishes to the weatherstrip.

3275 & 3275U Series Vertical Sliding, New Construction Double-Hung Windows

3000 SERIES FIBERGLASS

The 3275 Series and 3275U Series Fiberglass Vertical Sliding, New Construction Double-Hung Windows blend the energy efficiency and overall aesthetic appeal of wood windows with the low maintenance and structural integrity of pultruded fiberglass.Our available full finish wood extensions are designed for both 2x4 and 2x6 wall construction (other wall depths can be accommodated). Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The windows can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

The 3275 and 3275U Series is designed as a bottom vent inside slider (the bottom slider, or "vent", slides inside the top vent panel). Both top and bottom vents are equal in size in order for either vent to open for maximum ventilation.

Vertical sliding, double-hung windows can be used alone or in tandem with picture windows for multiple window installations.

COMPONENTS

COMPOSITE FRAME

Milgard's WoodClad composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

The pultruded fiberglass frame components are made from reinforced pultruded fiberglass with a .080" structural wall thickness. The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

3275 & 3275U Series Vertical Sliding, New Construction Double-Hung Windows

3000 SERIES FIBERGLASS

The 3275 and 3275U series measurement from inside of frame to nail flange is 4-9/16", and from outside of window frame to include nail fin is 1-3/8", to give you a 5-7/8" overall frame depth.

WOOD JAMB EXTENSIONS
Wood jamb extensions are an optional feature with all fiberglass windows. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL-ON FIN
A 1-1/4" pre-punched, flexible nail flange extends around the perimeter frame of the 3275 and 3275U, securing the window in rough openings. The 3275 and 3275U is also available with out the fin.

GLAZING MATERIAL
Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS
Insulating dual glazed panes, 7/8" in overall thickness, are butyl sealed for energy efficiency, with Milgard SunCoat™ Low-E insulating glass standard in all glazing units.

WEATHERSTRIPPING
The foam filled weatherstripping is installed in around the window to insure a weather tight seal.

BALANCER ASSEMBLY
The ventilator operates on concealed constant force balancers, allowing each vent to remain open in any position. The balancer is installed in the jamb on each side of the window. Additionally, each vent can unlatch from its vertical track to tilt inward for easy cleaning of exterior glass surfaces.

LOCKING ASSEMBLY
The lock and bottom sash tilt system is fully integrated into the lock rail. The locking of the sash and the tilting of the sash are controlled by the low profile lock lever located in the center of the lock rail.

WEEP SYSTEM
The primary water control system is preformed by the slope sill. Secondary weep system is located in the pultruded fiberglass glazing bead.

VENT PANELS
The ventilators have an "L"-shaped lip that fully interlocks with each other in the closed position, adding security and preventing weather penetration.

SCREEN
The 3275 & 3275U windows have an extruded aluminum frame with pull tabs and leaf springs. Screen frames are available to match the exterior color. Optional PureView fiberglass screen mesh is low visibility, strong, durable and easy to replace.

SIZING
All windows are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES
Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

Note:
- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

GRIDS
Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

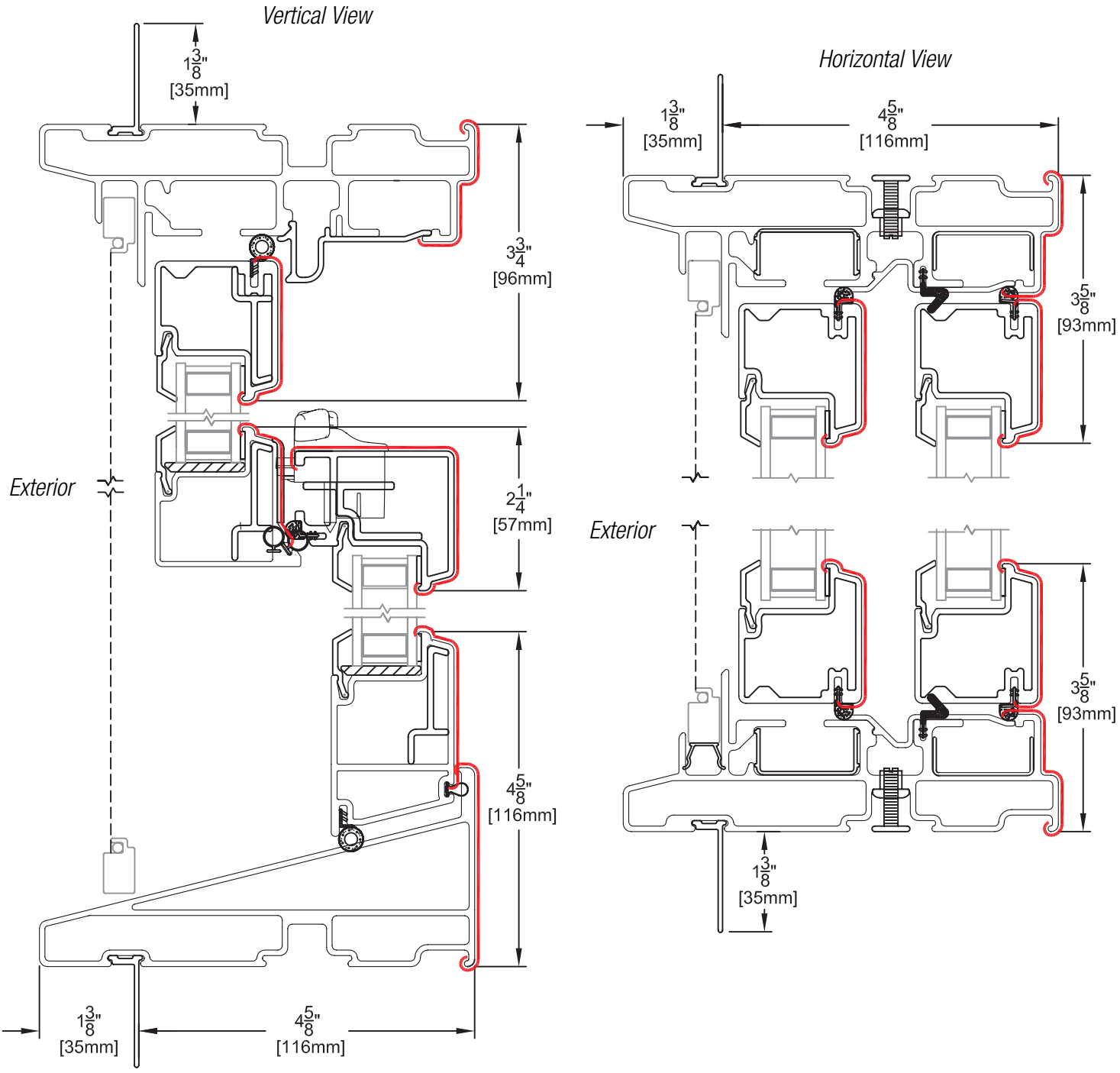
Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high. A 4'0" x 3'0" single-hung would be four wide x four high because of the intermediate horizontal bar.

BRICKMOULD
A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

HARDWARE
Hardware is available in both painted and metal finishes.

3275 WoodClad Assembly Drawing

3000 SERIES FIBERGLASS



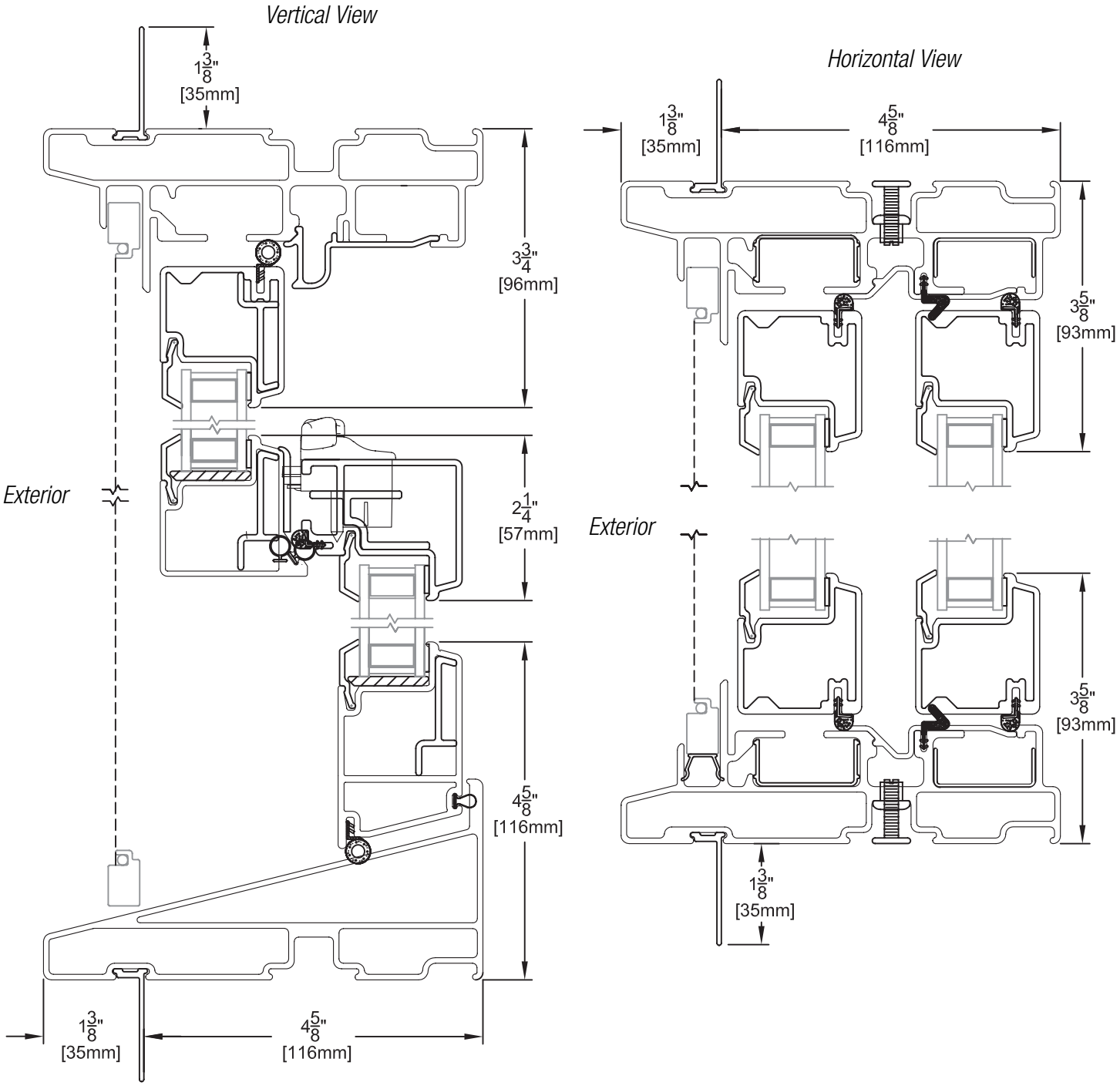
Red indicates wood veneer

Scale: 6" = 1' (1/2 scale)

Milgard WINDOWS & DOORS

3275U Ultra Assembly Drawing

3000 SERIES FIBERGLASS



Scale: 6" = 1' (1/2 scale)

3275-5
FEBRUARY 2009

3285 & 3285U Series Vertical Sliding, Replacement Double-Hung Windows

3000 SERIES FIBERGLASS

The 3285 Series and 3285U Series Fiberglass Vertical Sliding, Replacement Double-Hung Windows blend the energy efficiency and overall aesthetic appeal of wood windows with the low maintenance and structural integrity of pultruded fiberglass. Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The windows can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

The 3285 and 3285U Series is designed as a bottom vent inside slider (the bottom slider, or "vent", slides inside the top vent panel). Both top and bottom vents are equal in size in order for either vent to open for maximum ventilation.

Vertical sliding, double-hung windows can be used alone or in tandem with radius or picture windows for multiple window installations.

COMPONENTS

COMPOSITE FRAME

Milgard's WoodClad composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

The pultruded fiberglass frame components are made from reinforced pultruded fiberglass with a .080" structural wall thickness. The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

3285 & 3285U Series Vertical Sliding, Replacement Double-Hung Windows

3000 SERIES FIBERGLASS

The 3285 and 3285U series measurement from inside of frame to the blind stop is 3-1/4". The overall frame depth is 4 15/16".

GLAZING MATERIAL
Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS
Insulating dual glazed panes, 7/8" in overall thickness, are butyl sealed for energy efficiency, with Milgard SunCoat™ Low-E insulating glass standard in all glazing units.

WEATHERSTRIPPING
The foam filled weatherstripping is installed in around the window to insure a weather tight seal.

BALANCER ASSEMBLY
The ventilator operates on concealed constant force balancers, allowing each vent to remain open in any position. The balancer is installed in the jamb on each side of the window. Additionally, each vent can unlatch from its vertical track to tilt inward for easy cleaning of exterior glass surfaces.

LOCKING ASSEMBLY
The lock and bottom sash tilt system is fully integrated into the lock rail. The locking of the sash and the tilting of the sash are controlled by the low profile lock lever located in the center of the lock rail.

WEEP SYSTEM
The primary water control system is preformed by the slope sill. Secondary weep system is located in the pultruded fiberglass glazing bead.

VENT PANELS
The ventilators have an "L"-shaped lip that fully interlocks with each other in the closed position, adding security and preventing weather penetration.

SCREEN
The 3285 & 3285U windows have an extruded aluminum frame with push pins. Screen frames are available to match the exterior color. Optional PureView fiberglass screen mesh is low visibility, strong, durable and easy to replace.

SIZING
All windows are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES
Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

Note:
- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

GRIDS
Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high. A 4'0" x 3'0" single-hung would be four wide x four high because of the intermediate horizontal bar.

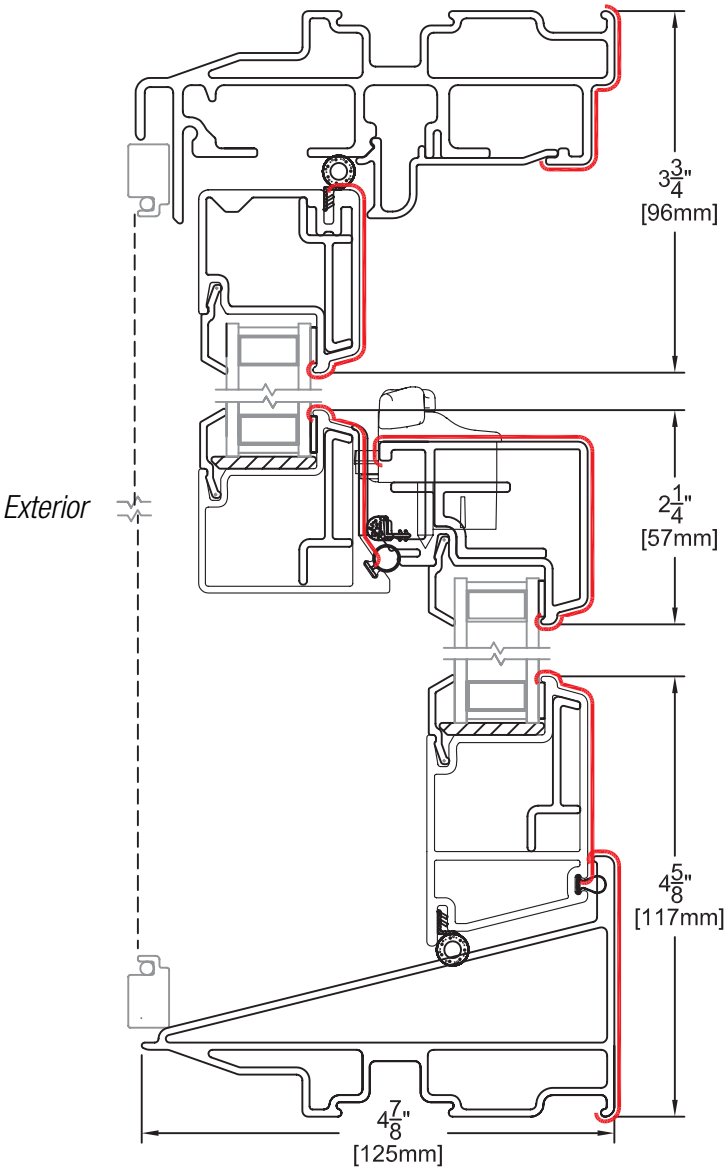
BRICKMOULD
A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

HARDWARE
Hardware is available in both painted and metal finishes.

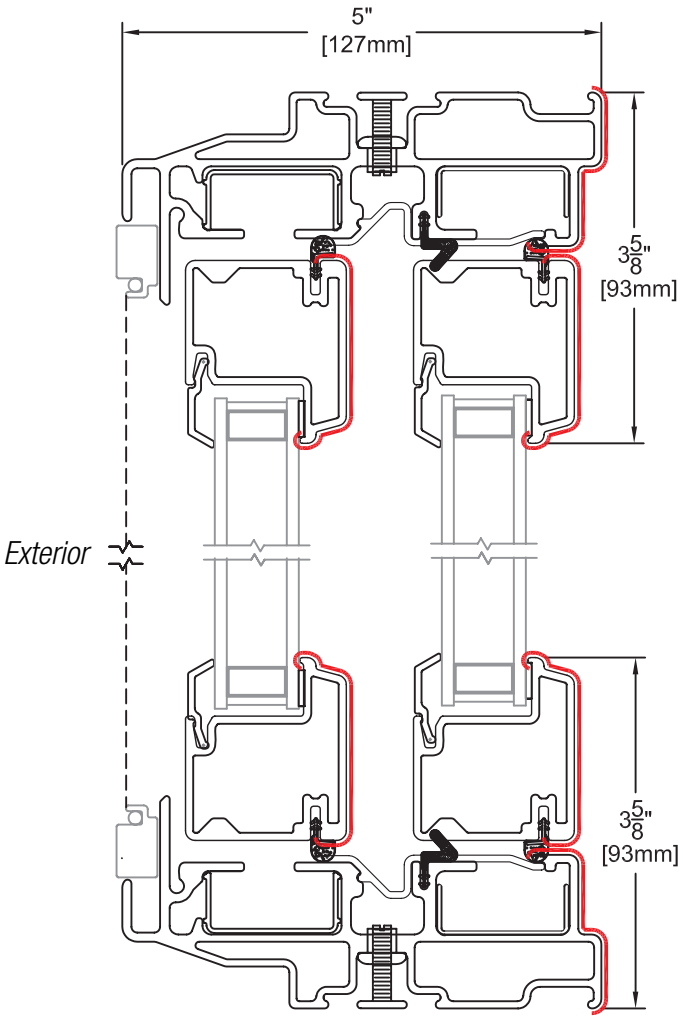
3285 WoodClad Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View



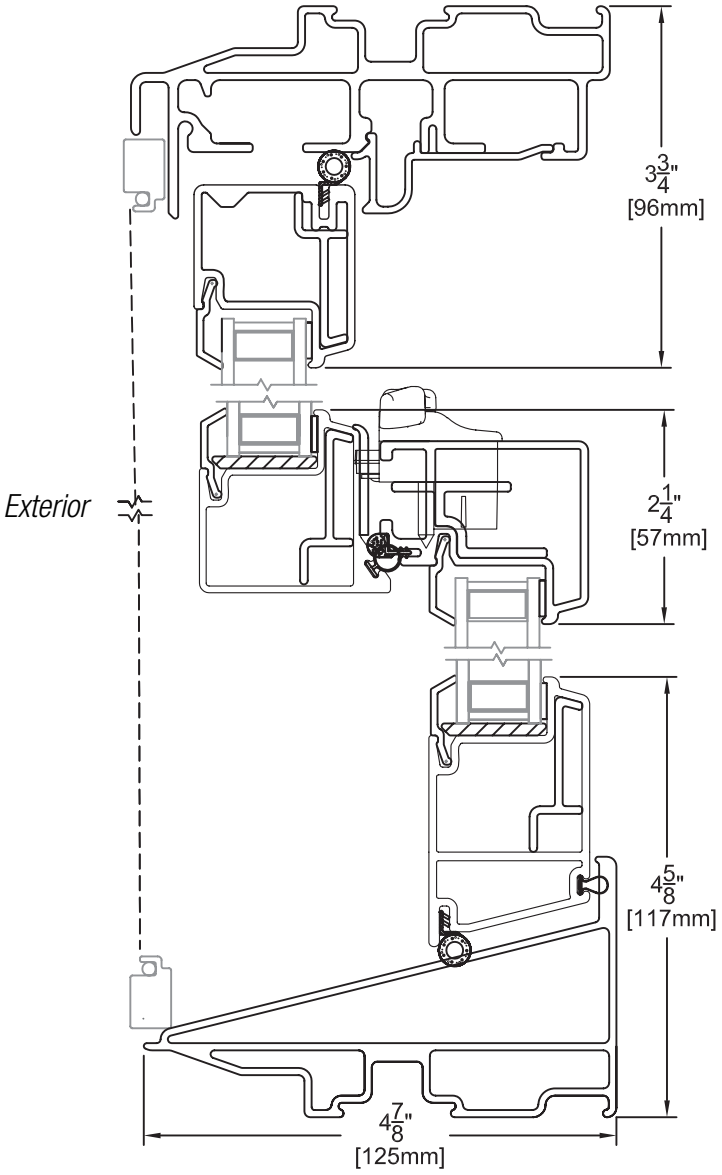
Red indicates wood veneer

Scale: 6" = 1' (1/2 scale)

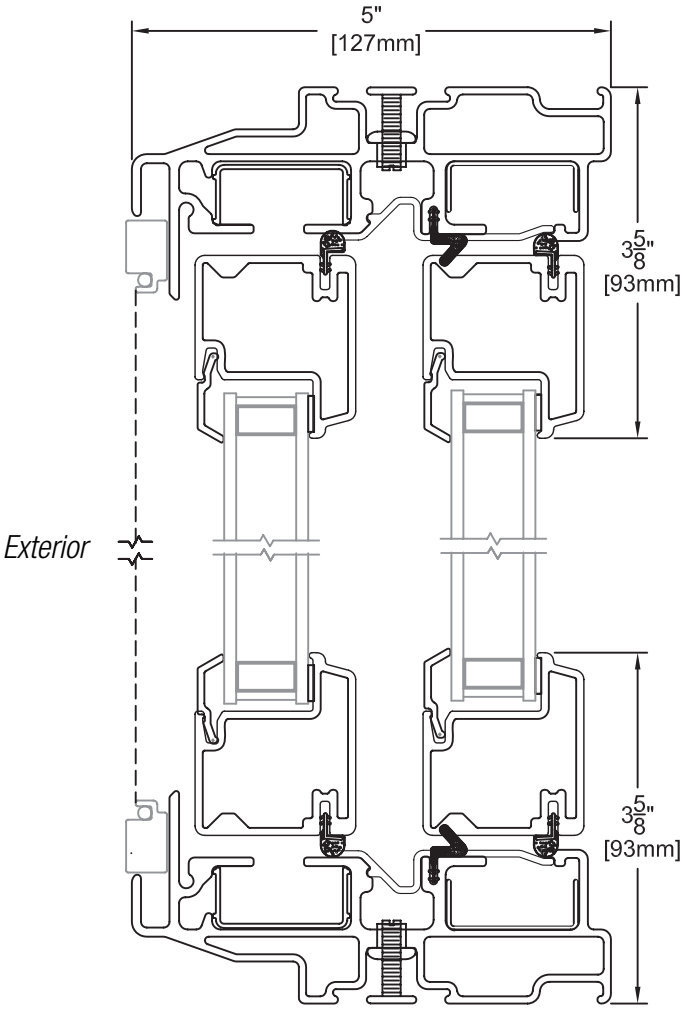
3285U Ultra Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View

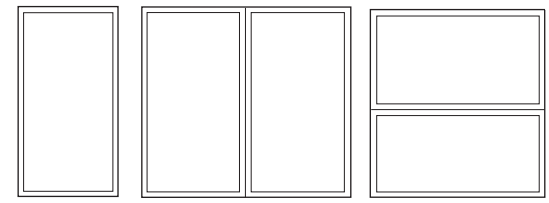


Scale: 6" = 1' (1/2 scale)

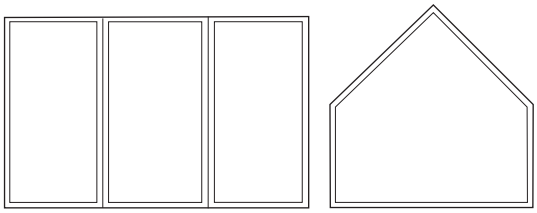
3285-5
FEBRUARY 2009

3310, 3315, 3310U, 3315U, 3371 & 3371U
Picture Windows

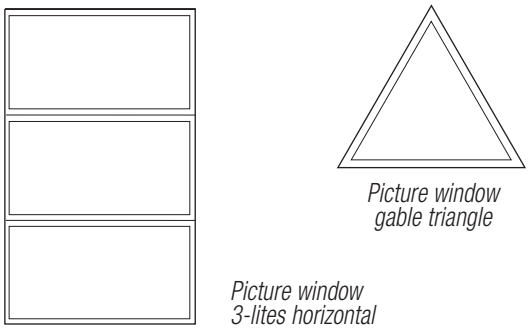
3000 SERIES FIBERGLASS



Picture window | Picture window 2-lites vertical | Picture window 2-lites horizontal

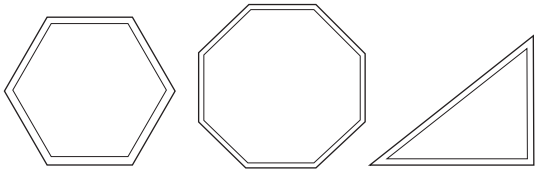


Picture window 3-lites vertical | Picture window gable



Picture window gable triangle

Picture window 3-lites horizontal



Picture window hexagon | Picture window octagon | Picture window gable 3-sided

- PICTURE WINDOW
  - Min 1⁰1⁰ Max 8⁰6⁰
- PICTURE WINDOW 2-LITES VERTICAL
  - Min 2⁰1⁰ Max 8⁰6⁰
- PICTURE WINDOW 2-LITES HORIZONTAL
  - Min 1⁰2⁰ Max 8⁰6⁰
- PICTURE WINDOW 3-LITES VERTICAL
  - Min 3⁰1⁰ Max 8⁰6⁰
- PICTURE WINDOW 3-LITES HORIZONTAL
  - Min 1⁰3⁰ Max 6⁰8⁰
- PICTURE WINDOW GABLE TRIANGLE
  - Min 2⁰2⁰ Max 8⁰6⁰
- PICTURE WINDOW HEXAGON
  - Min 2⁰2⁰ Max 6⁰6⁰
- PICTURE WINDOW OCTAGON
  - Min 2⁰2⁰ Max 6⁰6⁰
- PICTURE WINDOW GABLE 3-SIDED
  - Min 1⁰1⁰ Max 8⁰6⁰

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications.

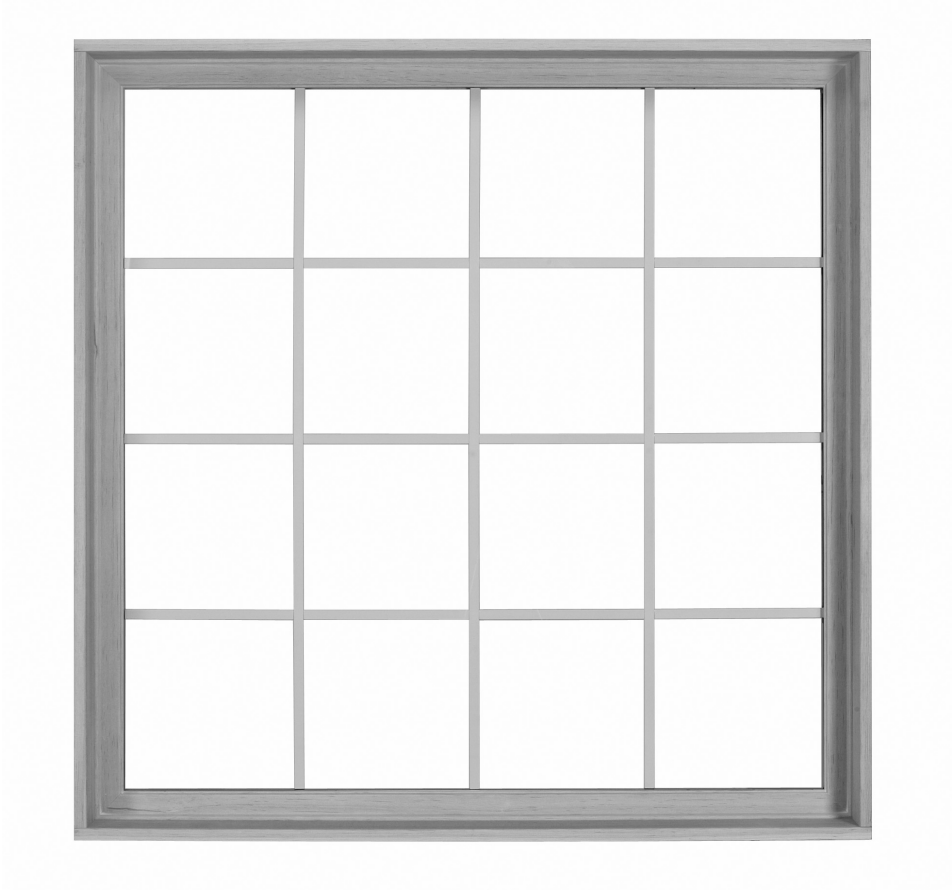
Windows over 40 square feet shipped open for field glazing. Varies by location.

WOOD FINISHING – WOODCLAD SERIES

The unfinished wood interior surfaces must be finished and sealed promptly for best results and protection. For maximum protection, finish the interior wood surfaces prior to, or immediately after installation. If the product is to be stored for any length of time before installation, avoid exposure to any moisture conditions. Do not expose the unfinished wood to high heat, high humidity, or excessive construction moisture conditions. Unfinished wood surfaces subject to water damage at the jobsite, or left unfinished before/after installation so that the wood interior surfaces become stained or damaged, will not be considered as “defective in materials or workmanship” under the terms of Milgard’s Warranty. Do not apply any finishes to the weatherstrip.

3310, 3315 & 3310U, 3315U Picture Windows

3000 SERIES FIBERGLASS



The 3310, 3315 WoodClad Series and 3310U, 3315U Ultra Series Fiberglass Picture Windows blend the energy efficiency and overall aesthetic appeal of wood windows with the low maintenance and structural integrity of pultruded fiberglass. Our available full finish wood jamb extensions are designed for both 2x4 and 2x6 construction (other wall depths can be accommodated). Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The windows can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

The 3310, 3315 and 3310U, 3315U Series Fiberglass Picture Windows can be combined with themselves or other WoodClad or Ultra windows to create almost any configuration you can envision. Milgard fiberglass picture windows are available in custom sizes to match almost any design, either new or retrofit.

COMPONENTS

COMPOSITE FRAME

Milgard's WoodClad composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

The pultruded fiberglass frame components are made from reinforced pultruded fiberglass with a .080" structural wall thickness. The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

3310, 3315 & 3310U, 3315U Picture Windows

3000 SERIES FIBERGLASS

On the 3310 & 3310U, the distance from inside of frame to nail flange is 1-7/8", and from outside of window frame to include nail fin is 1-3/8", to give you a 3-1/4" overall frame depth.

On the 3315 & 3315U, the distance from inside of frame to nail flange is 2-7/8", and from outside of window frame to include nail fin is 1-3/8", to give you a 4-1/4" overall frame depth.

Joined frame and jamb extenders are available in standard widths of 4- 9/16" or 6-9/16" for standard wall construction. Other custom widths are also available, subject to engineering review.

WOOD JAMB EXTENSIONS

Wood jamb extensions are an optional feature with all fiberglass windows. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL-ON FIN

A 1-1/4" pre-punched, flexible nail flange extends around the perimeter frame, securing the window in rough openings. The 3310, 3315 and 3310U, 3315U Series is available without nailing fin.

GLAZING MATERIAL

Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS

Insulating dual glazed panes, 7/8" in overall thickness, are butyl sealed for energy efficiency, with Milgard SunCoat™ Low-E insulating glass standard in all glazing units.

WEEP SYSTEM

Primary weep system is located in hollow sill construction and baffled, hidden weep holes drain water from track and help prevent blow-back, or water seeping to the inside caused by a combination of wind and rain. Secondary weep system is located in the pultruded fiberglass glazing bead.

SIZING

All windows are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES

Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

Note:

- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

GRIDS

Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high.

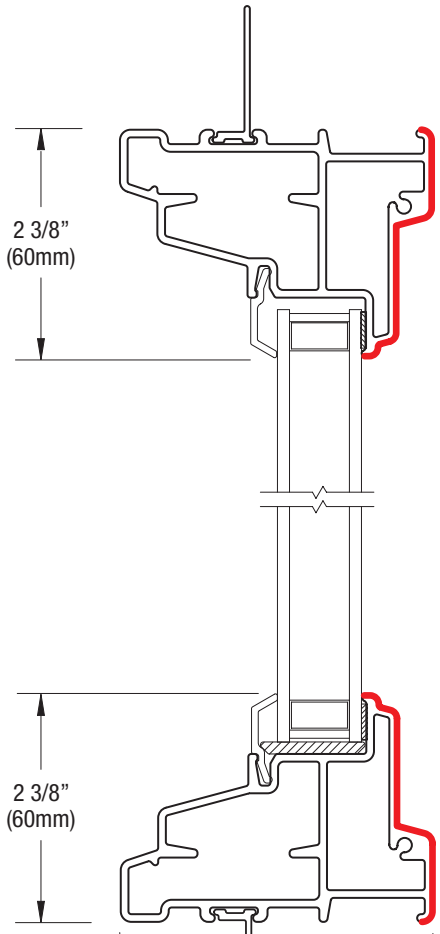
BRICKMOULD

A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

3310 WoodClad Assembly Drawing

3000 SERIES FIBERGLASS

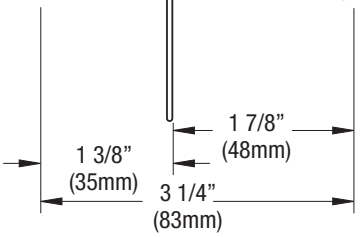
Vertical View

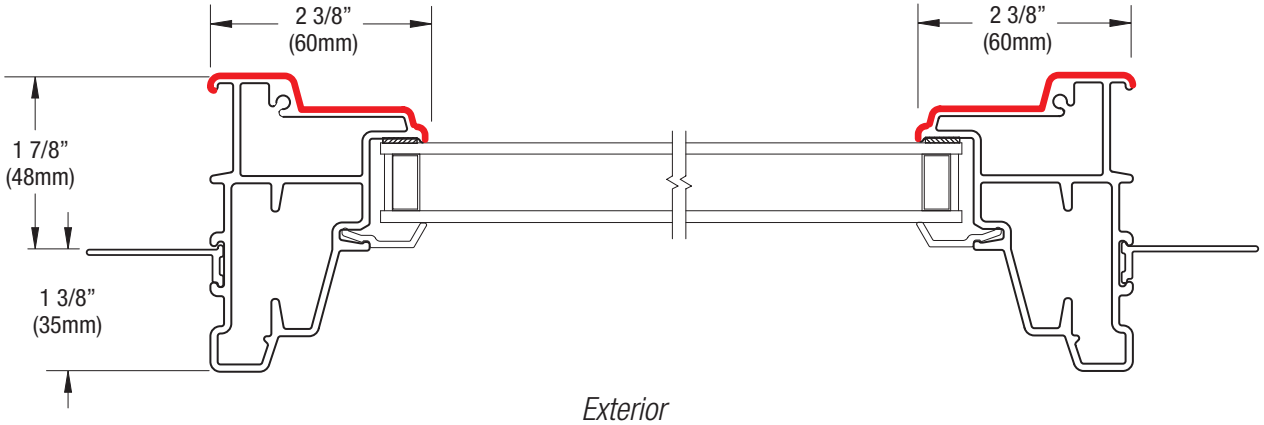


Exterior

Red indicates wood veneer

Horizontal View





Exterior

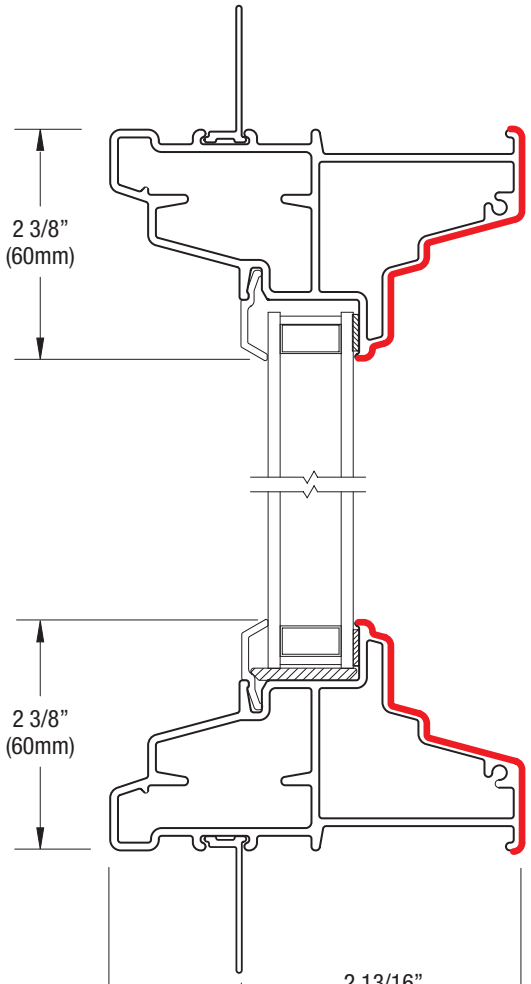
Scale: 6" = 1' (1/2 scale)

3310/3315-4
FEBRUARY 2009

3315 WoodClad Assembly Drawing

3000 SERIES FIBERGLASS

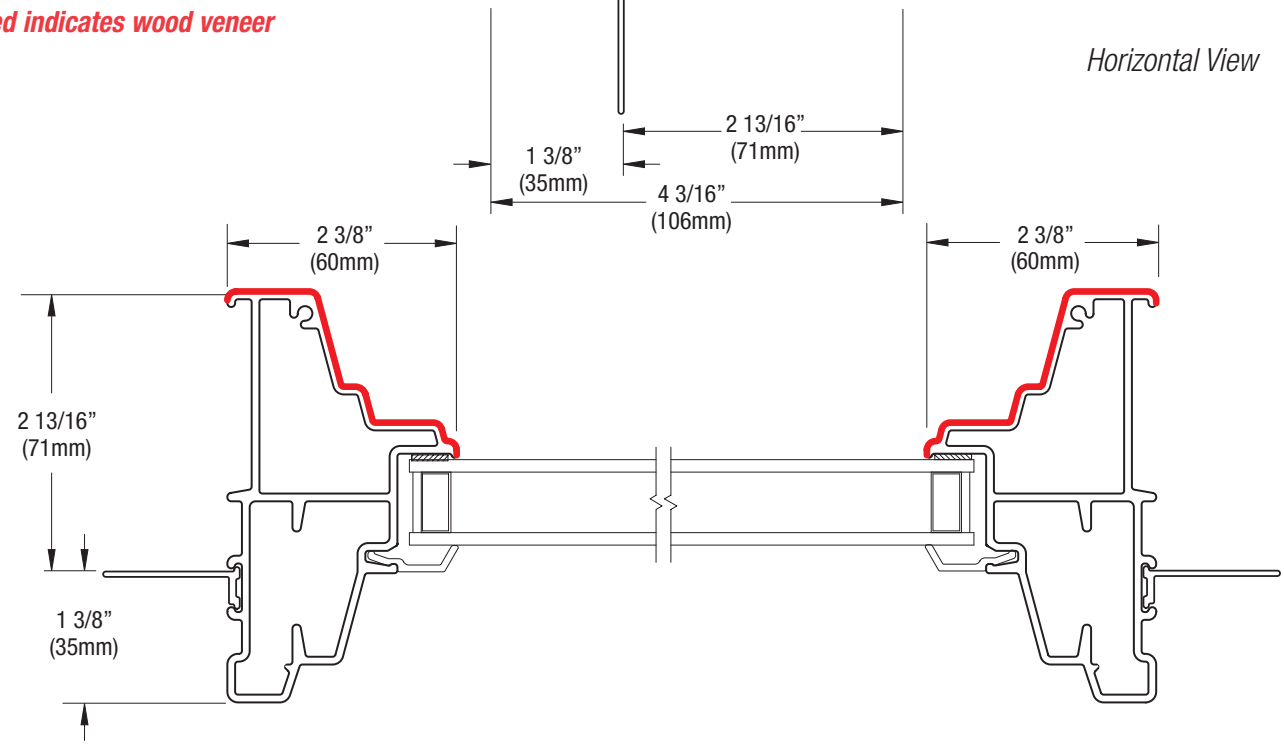
Vertical View



Exterior

Red indicates wood veneer

Horizontal View



Exterior

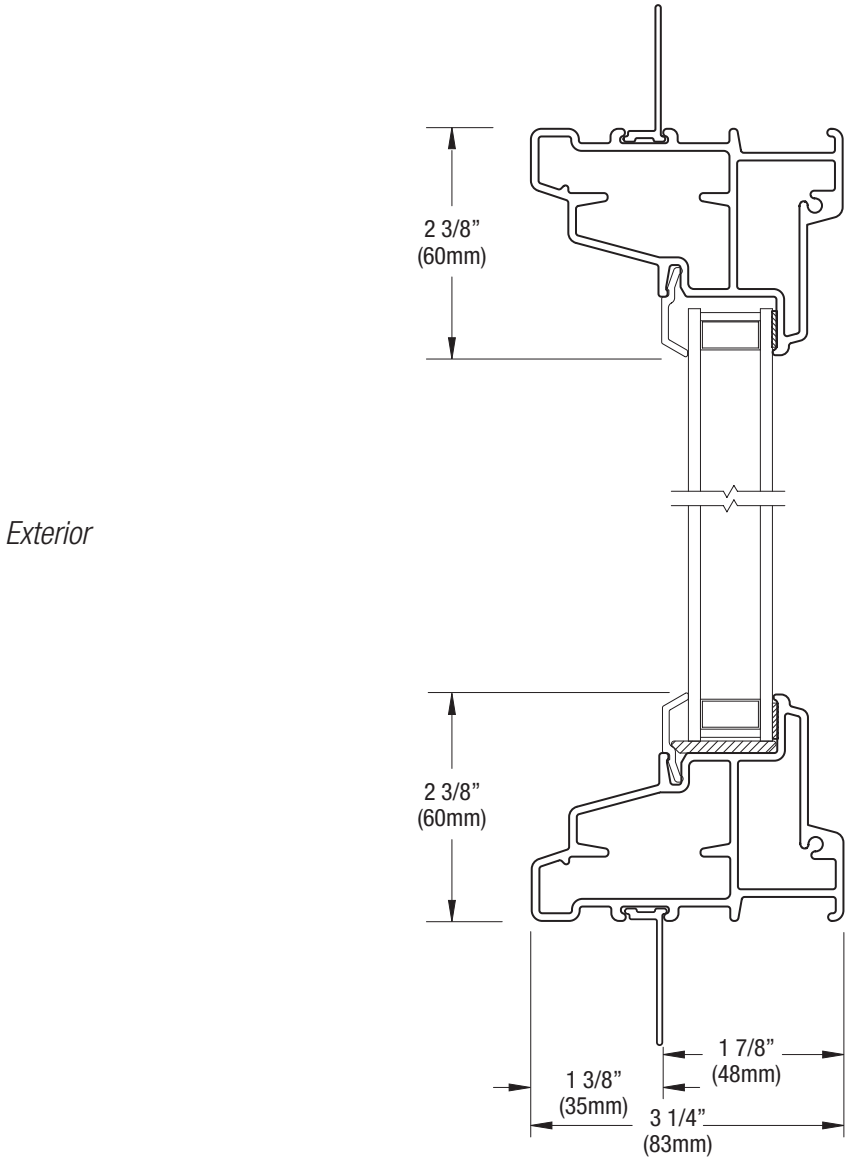
3310/3315-5
FEBRUARY 2009

Scale: 6" = 1' (1/2 scale)

3310U Ultra Assembly Drawing

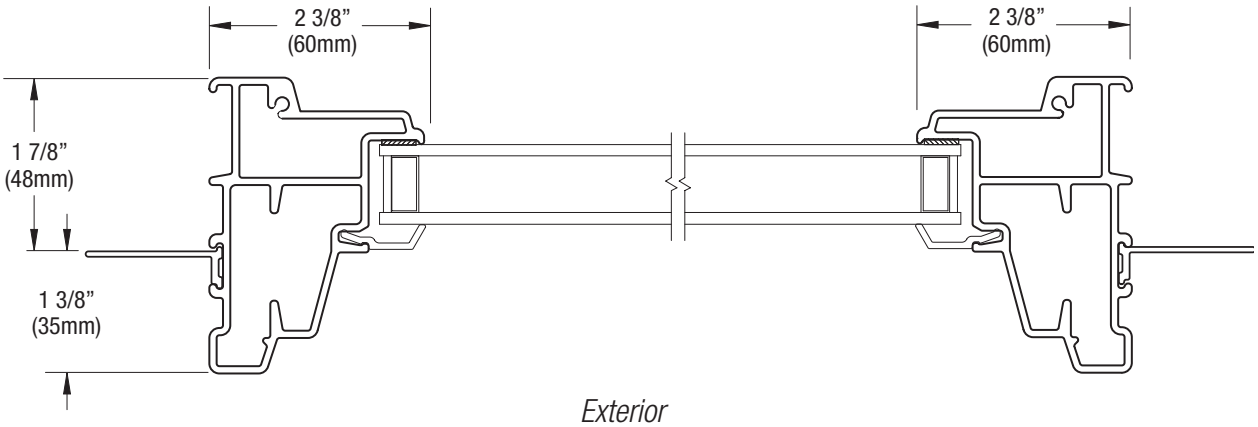
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



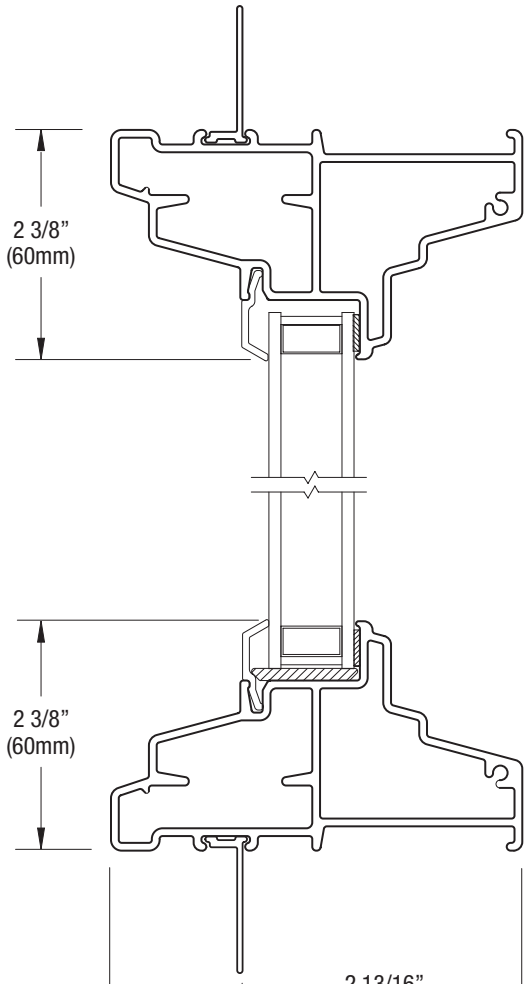
Exterior

Scale: 6" = 1' (1/2 scale)

3315U Ultra Assembly Drawing

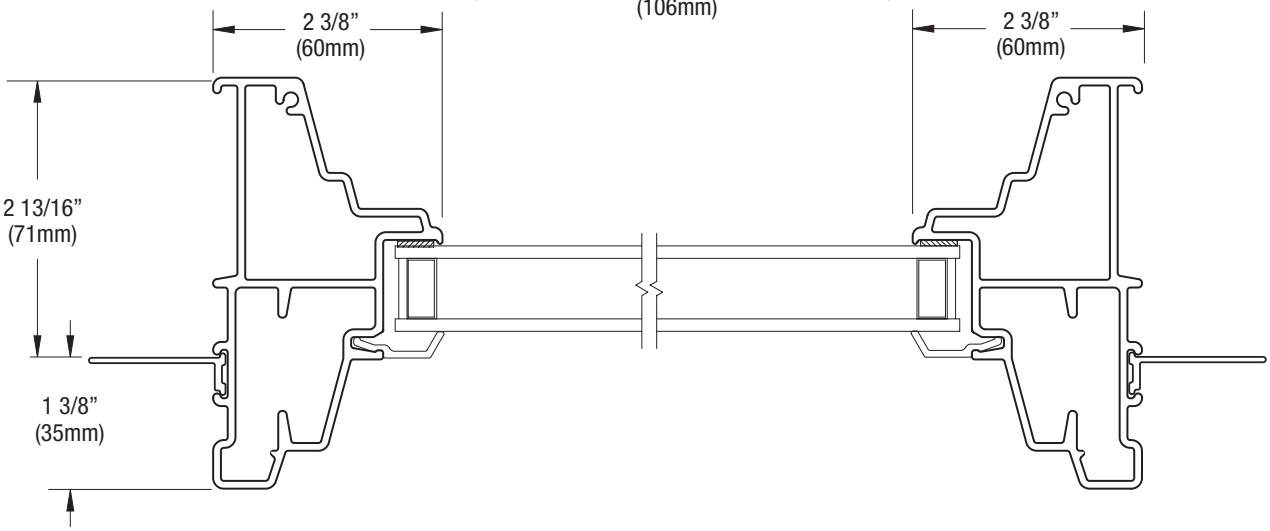
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



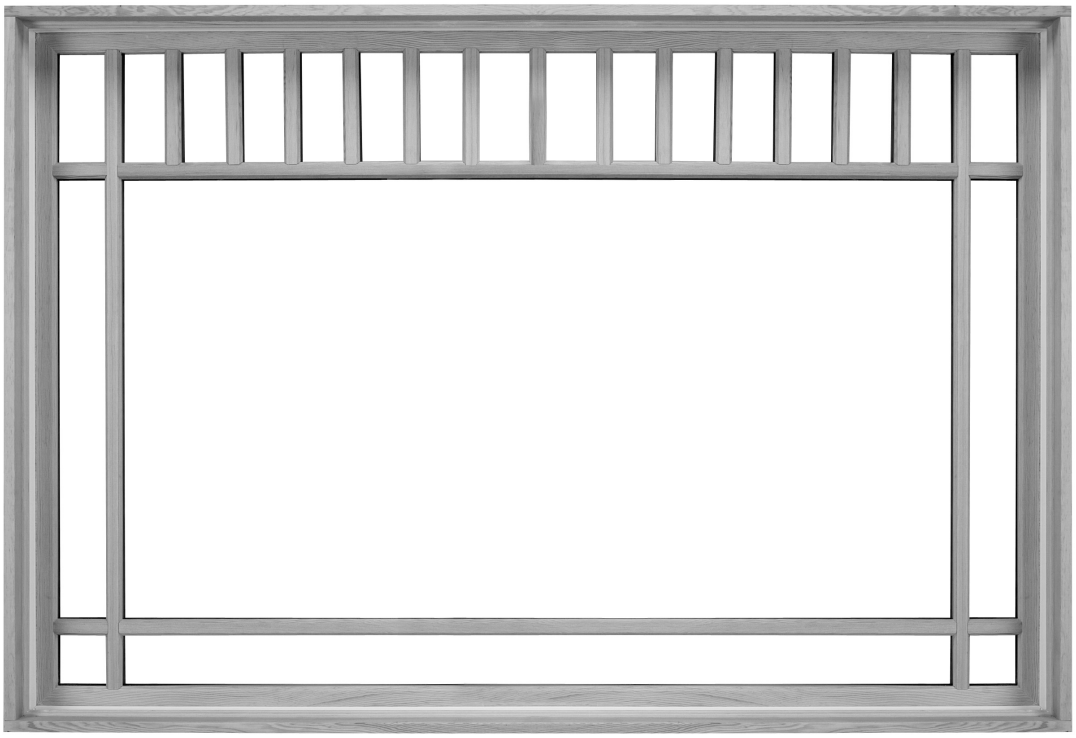
Exterior

Scale: 6" = 1' (1/2 scale)

3310/3315-7
FEBRUARY 2009

3371 & 3371U Picture Window Retro-Fit

3000 SERIES FIBERGLASS



(as shown with simulated divided lite grid)

The 3371 WoodClad Series and 3371U Ultra Series Fiberglass Picture Window Retro-Fit blend the energy efficiency and overall aesthetic appeal of wood windows with the low maintenance and structural integrity of pultruded fiberglass. Our available full finish wood liners are designed for both 2x4 and 2x6 construction. We can add jamb extensions to achieve virtually any custom size. Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The windows can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

The 3371 and 3371U Series is designed as a retro-fit picture window matching our half vent and single hung windows. Picture Window Retro-Fit's can be used alone or in tandem with other Milgard fiberglass windows.

COMPONENTS

COMPOSITE FRAME

Milgard's WoodClad composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

The pultruded fiberglass frame components are made from reinforced pultruded fiberglass with a .080" structural wall thickness. The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

3371 & 3371U Picture Window Retro-Fit

3000 SERIES FIBERGLASS

From inside of frame to nail flange is 2-7/8", and from outside of window frame to include nail fin is 1-3/8", to give you a 4-1/4" overall frame depth.

Joined frame and liners are available in standard widths of 4-9/16" or 6-9/16" for standard wall construction. Other custom widths are also available, subject to engineering review.

WOOD JAMB EXTENSIONS

Wood jamb extensions are an optional feature with all fiberglass windows. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL-ON FIN

A 1-1/4" pre-punched, flexible nail flange extends around the perimeter frame, securing the window in rough openings. The 3371 and 3371U Series is available without nailing fin or with Z-Bar™ flush fin retrofit trim for use as a replacement window.

GLAZING MATERIAL

Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS

Insulating dual glazed panes, 7/8" in overall thickness, are butyl sealed for energy efficiency, with Milgard SunCoat™ Low-E insulating glass standard in all glazing units.

WEATHERSTRIPPING

Foam filled seal and silicone-treated, water-repellent polypropylene fin seal weatherstripping provides a durable, weather-tight seal. This weatherstripping is installed around the entire perimeter of the vent panel.

WEEP SYSTEM

Primary weep system is located in hollow sill construction. Baffled weep holes drain water from track and help prevent blow-back, or water seeping to the inside caused by a combination of wind and rain. A secondary baffled weep system is located in the pultruded fiberglass glazing bead.

SIZING

All windows are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES

Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

Note:

- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

GRIDS

Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high. A 4'0" x 3'0" single-hung would be four wide x four high because of the intermediate horizontal bar.

BRICKMOULD

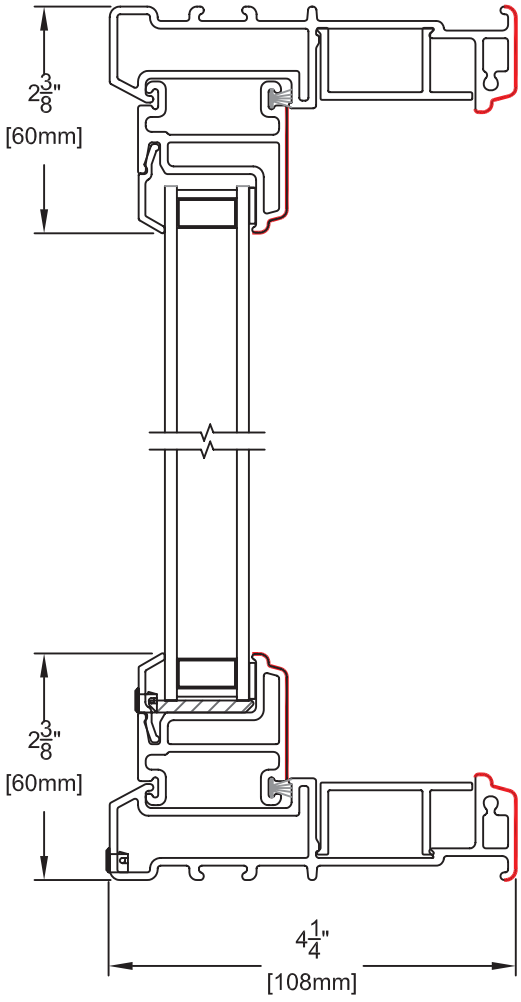
A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

3371 WoodClad Assembly Drawing

3000 SERIES FIBERGLASS

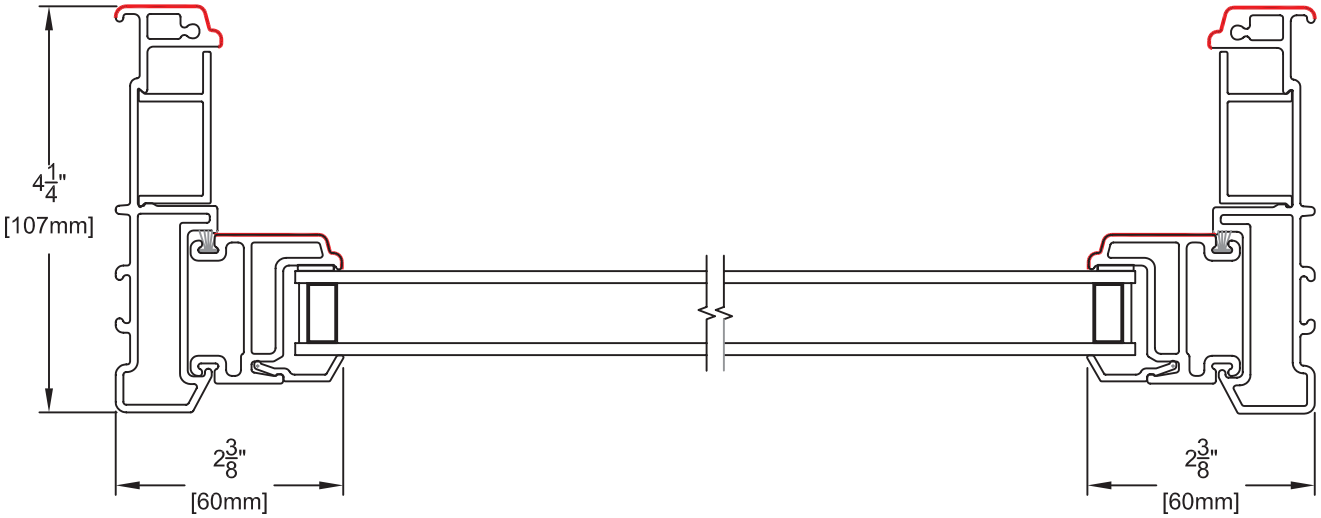
Vertical View

Exterior



Red indicates wood veneer

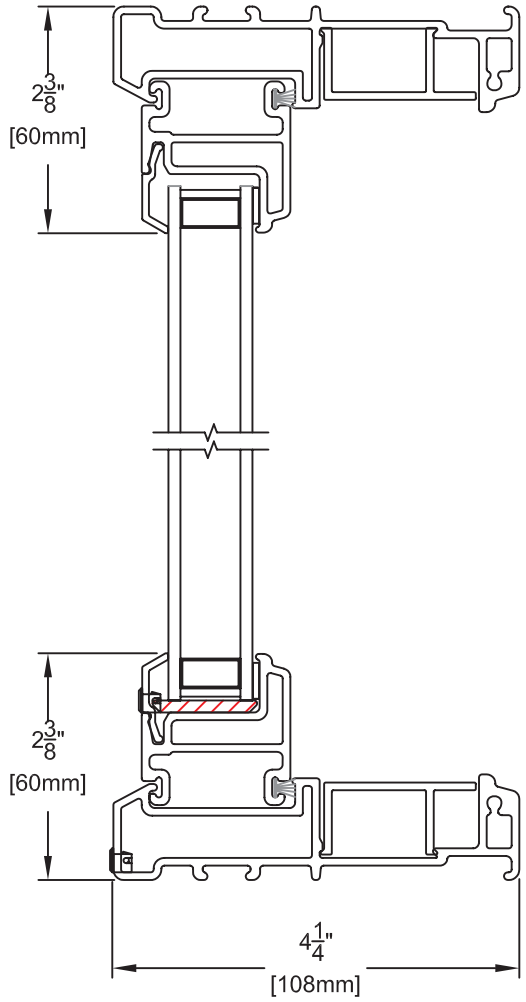
Horizontal View



Scale: 6" = 1' (1/2 scale)

3371U Ultra Assembly Drawing

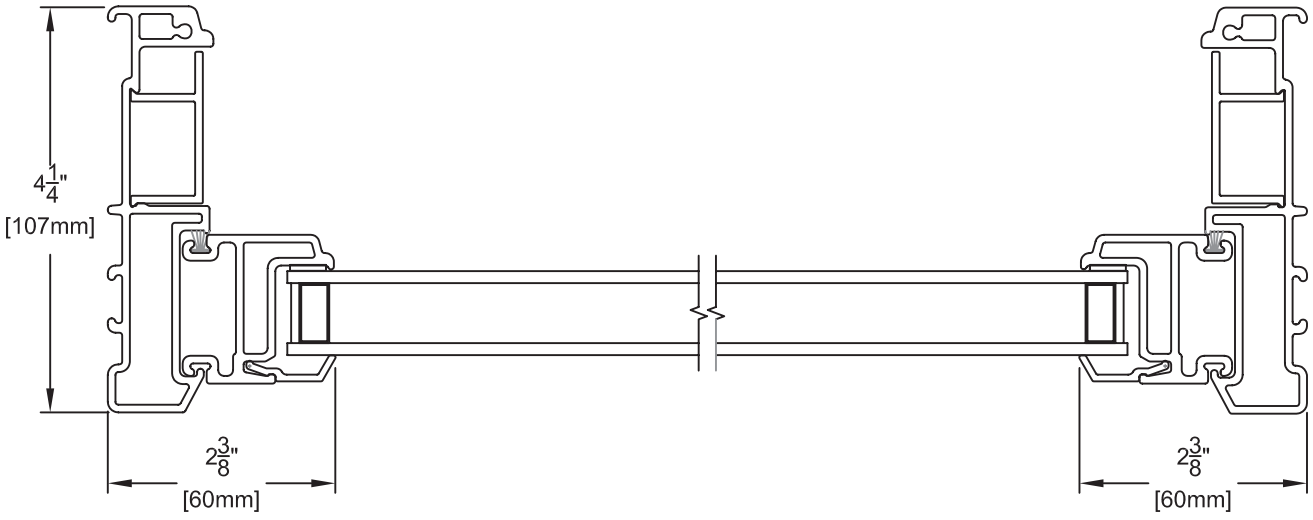
3000 SERIES FIBERGLASS



Vertical View

Exterior

Horizontal View



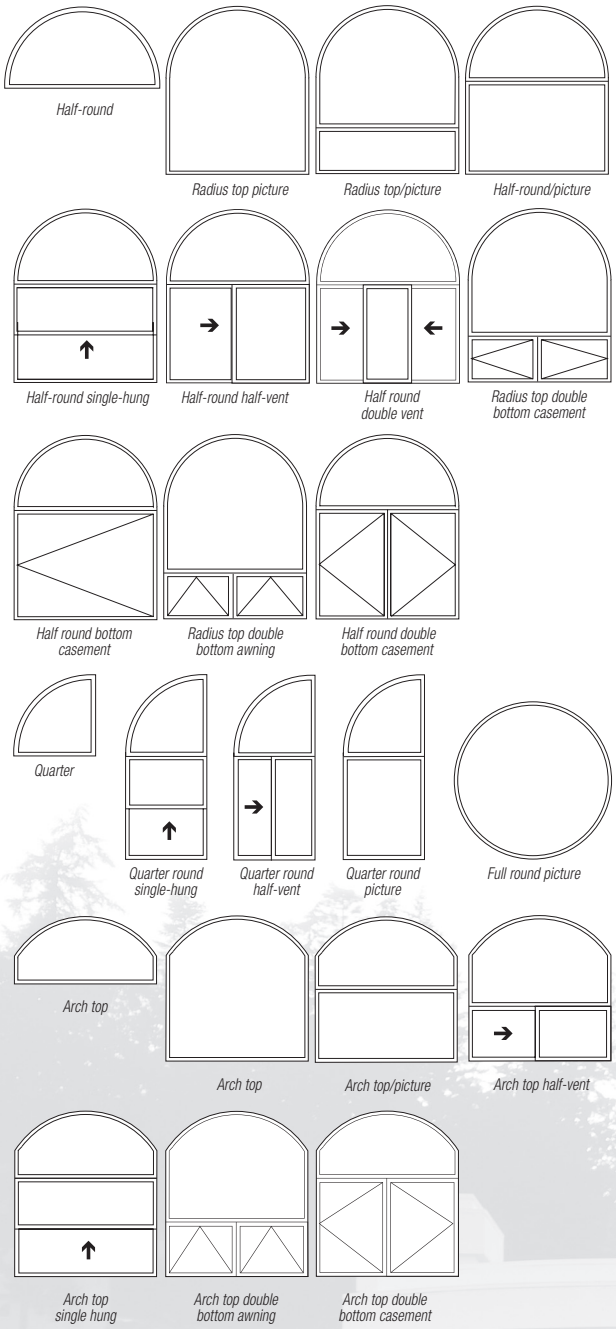
Scale: 6" = 1' (1/2 scale)

3371/3371U-5
FEBRUARY 2009

Milgard WINDOWS & DOORS

3710 Radius Windows

3000 SERIES FIBERGLASS



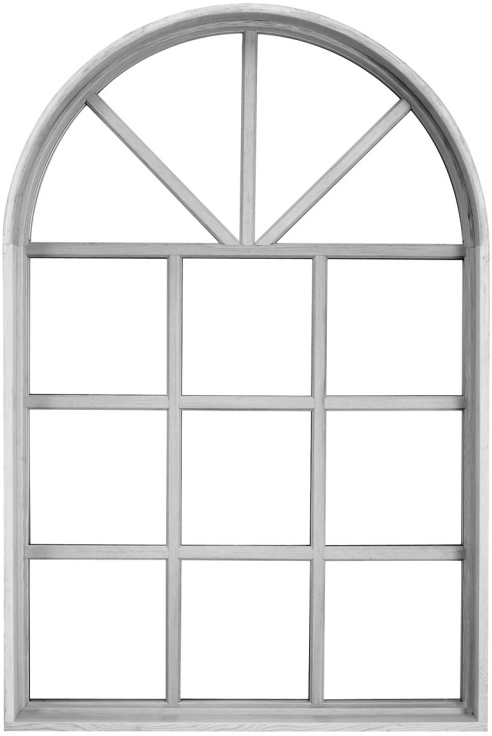
- HALF-ROUND
  - Min 2⁰1⁰ Max 8⁰4⁰
- RADIUS TOP PICTURE
  - Min 3⁰2⁰ Max 8⁰5⁰
- HALF-ROUND/PICTURE
  - Min 2⁰2⁰ Max 8⁰6⁰
- HALF-ROUND SINGLE-HUNG
  - Min 2⁰3⁶ Max 4⁰9⁰
- HALF-ROUND HALF-VENT
  - Min 2⁶2⁹ Max 6⁰8⁰
- HALF-ROUND DOUBLE VENT
  - Min 5⁰3¹⁰ Max 6⁰8⁰
- RADIUS TOP DOUBLE BOTTOM CASEMENT
  (refer to casement/awning section for maximum vent size)
  - Min 3⁰4⁰ Max 6⁰8⁰
- RADIUS TOP BOTTOM AWNING
  (refer to casement/awning section for maximum vent size)
  - Min 2⁰3⁰ Max 5⁰8⁰
- RADIUS TOP DOUBLE BOTTOM AWNING
  (refer to casement/awning section for maximum vent size)
  - Min 3²3⁷ Max 6⁰8⁰
- HALF-ROUND DOUBLE BOTTOM CASEMENT
  (refer to casement/awning section for maximum vent size)
  - Min 3⁰3⁶ Max 6⁰8⁰
- QUARTER ROUND PICTURE
  - Min 1⁶1⁶ Max 6⁰6⁰
- QUARTER ROUND SINGLE-HUNG
  - Min 1⁶4⁰ Max 4⁰10⁰
- QUARTER ROUND HALF-VENT
  - Min 2⁰3⁴ Max 6⁰10⁰
- QUARTER ROUND/PICTURE
  - Min 1⁶2⁰ Max 6⁰10⁰
- FULL ROUND PICTURE
  - Min 2⁰2⁰ Max 6⁰6⁰
- ARCH TOP
  - Min 3⁰2⁰ Max 8⁰5⁰
- ARCH TOP/PICTURE
  - Min 3⁰3⁰ Max 8⁰6⁰
- ARCH TOP HALF-VENT
  - Min 3⁰3⁴ Max 6⁰10⁰
- ARCH TOP SINGLE-HUNG
  - Min 3⁰4⁵ Max 4⁰10⁰
- ARCH TOP DOUBLE BOTTOM AWNING
  (refer to casement/awning section for maximum vent size)
  - Min 3²3⁷ Max 8⁰6⁰
- ARCH TOP DOUBLE BOTTOM CASEMENT
  (refer to casement/awning section for maximum vent size)
  - Min 3⁰4⁰ Max 6⁰10⁰

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications.

Windows over 40 square feet shipped open for field glazing. Varies by location.

3710 Radius Windows

3000 SERIES FIBERGLASS



The 3710 WoodClad and Ultra Series Radius Windows blend energy efficiency and overall aesthetic appeal of wood windows. To construct a radius window in this series, we utilize low-maintenance extruded aluminum outer frame for its ability to radius to precise arch and half-round shapes, which is pattern-matched to all other WoodClad and Ultra window exterior picture window profiles. On the interior side, we attach a full finish-grade wood jamb extension designed to accommodate both 2x4 and 2x6 wall construction. Other wall depths can be accommodated by special order. In the WoodClad Series, the radius wood jamb extension utilizes clear vertical-grain Douglas Fir or other premium wood species, while the Ultra series comes painted finish. The 3710 series windows can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

The 3710 and 3710U Series Fiberglass Radius Windows can be combined with other **WoodClad** or **Ultra** windows to create almost any configuration you can envision. Milgard fiberglass picture windows are available in custom sizes to match almost any design, either new or retrofit.

COMPONENTS

COMPOSITE FRAME

Milgard's WoodClad radius frame can be utilized in numerous configurations. To accommodate curved radius frame sections, we combine pattern-matched extruded aluminum with a radius wood jamb extension to the interior.

Milgard's Ultra frame is based on the same frame configuration as used in our WoodClad Series, with the interior reveal color matched.

3710 Radius Windows

3000 SERIES FIBERGLASS

The aluminum frame components are made from 6063-T1 aluminum alloy with a structural wall thickness of .060". From inside of frame to nail flange is 1-1/4", and from outside of window frame to include nail fin is 1-3/8", to give you a 2-1/2" overall frame depth.

Jamb extensions are available in standard widths of 4-9/16" or 6-9/16" for standard wall construction. Other custom widths are also available, subject to engineering review. Also available with radius window orders is a 2-1/4" colonial casing moulding, formed for matching the radius of each window produced.

WOOD JAMB EXTENSIONS

Wood jamb extensions are an optional feature with all fiberglass windows. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL-ON FIN

A 1-1/4" pre-punched, flexible nail flange extends around the perimeter frame, securing the window in rough openings and acting as flashing. The 3310 and 3310U Series is available without nailing fin.

GLAZING MATERIAL

Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS

Insulating dual glazed panes, 7/8" in overall thickness, are butyl sealed for energy efficiency, with Milgard SunCoat™ Low-E insulating glass standard in all glazing units.

OPTIONS

ENERGY PACKAGES

Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

Note:

- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

GRIDS

Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high.

BRICKMOULD

A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

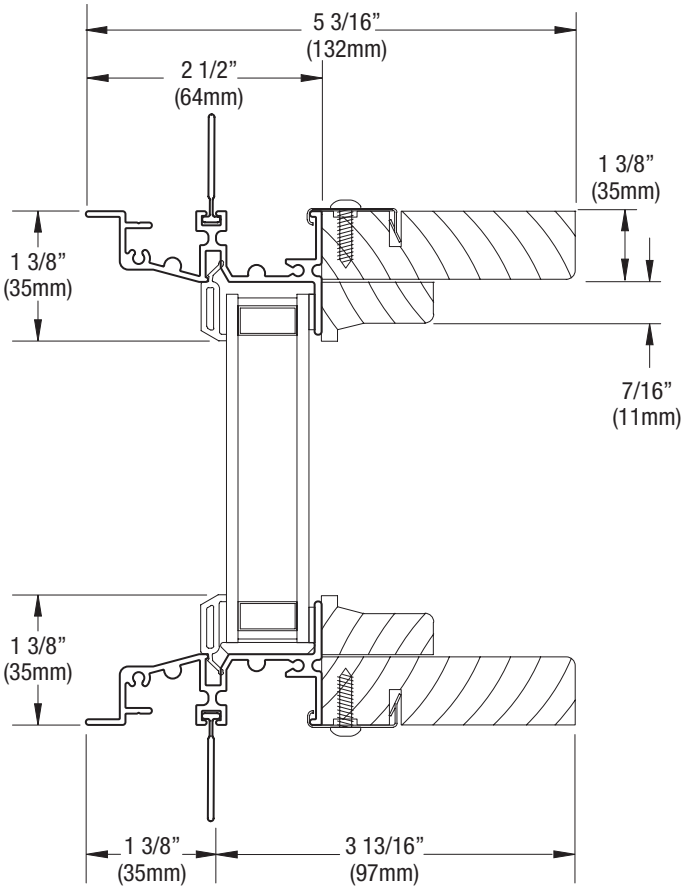
SIZING

All windows are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

3710 WoodClad Assembly Drawing

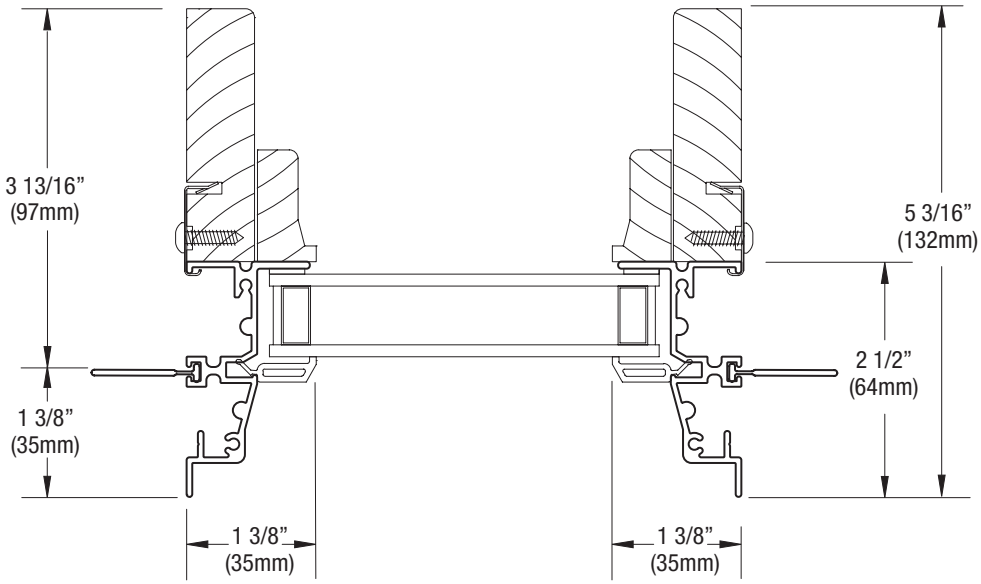
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



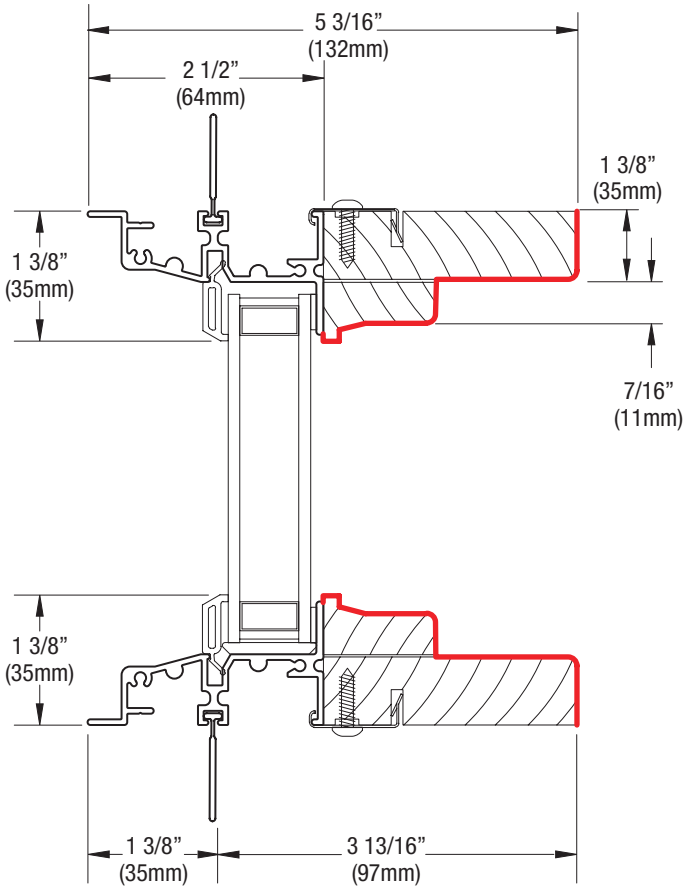
Exterior

Scale: 6" = 1' (1/2 scale)

3710U Ultra Assembly Drawing

3000 SERIES FIBERGLASS

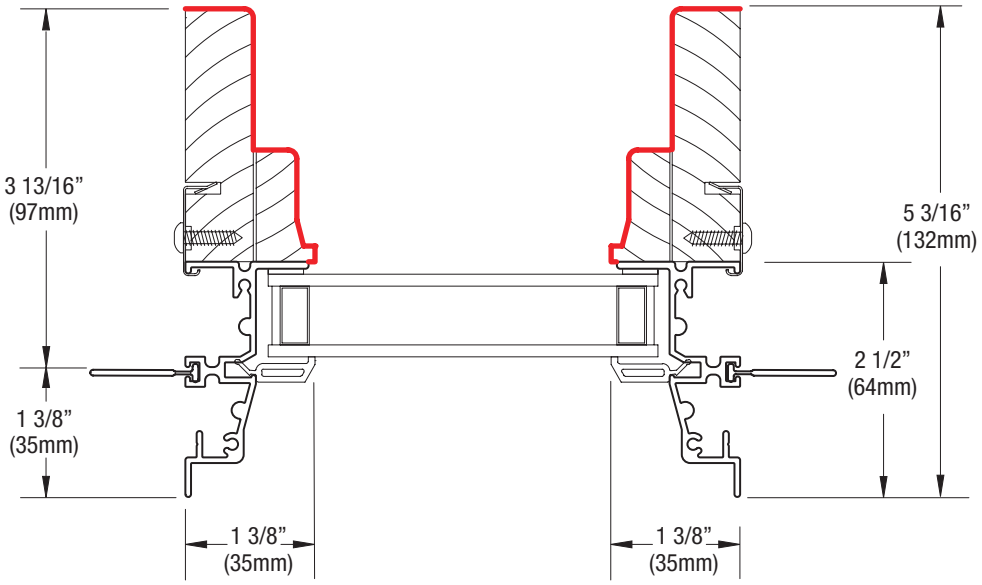
Vertical View



Exterior

Red indicates areas painted with primer

Horizontal View



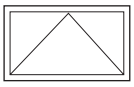
Exterior

Scale: 6" = 1' (1/2 scale)

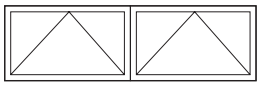
3710-5
FEBRUARY 2009

3410, 3410U Awning Windows

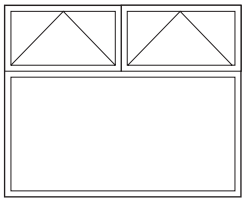
3000 SERIES FIBERGLASS



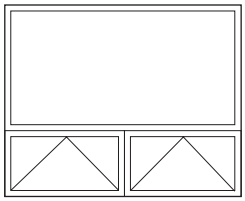
Full awning



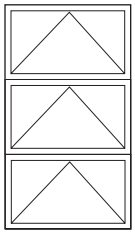
Double awning



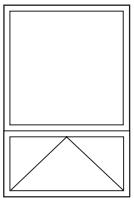
Double-top awning



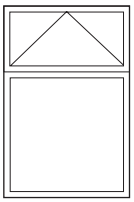
Double-bottom awning



Triple awning vertical



Bottom awning



Top awning

- FULL AWNING
  - Min $1^{7}1^{6}$ Max $5^{0}3^{0}$
- DOUBLE AWNING
  - Min $3^{2}1^{6}$ Max $10^{0}3^{0}$
- TRIPLE AWNING VERTICAL
  - Min $1^{7}4^{6}$ Max $5^{0}9^{0}$

Awning not available for egress

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications.

Windows over 40 square feet shipped open for field glazing. Varies by location.

WOOD FINISHING – WOODCLAD SERIES

The unfinished wood interior surfaces must be finished and sealed promptly for best results and protection. For maximum protection, finish the interior wood surfaces prior to, or immediately after installation. If the product is to be stored for any length of time before installation, avoid exposure to any moisture conditions. Do not expose the unfinished wood to high heat, high humidity, or excessive construction moisture conditions. Unfinished wood surfaces subject to water damage at the jobsite, or left unfinished before/after installation so that the wood interior surfaces become stained or damaged, will not be considered as "defective in materials or workmanship" under the terms of Milgard's Warranty. Do not apply any finishes to the weatherstrip.

3410, 3410U Awning Windows

3000 SERIES FIBERGLASS

The 3410, 3410U Series Awning in both WoodClad and Ultra Fiberglass Windows blend the energy efficiency and overall aesthetic appeal of wood windows with the low maintenance and structural integrity of pultruded fiberglass. Our available full finish wood liners are designed for both 2x4 and 2x6 construction. We can make your jamb liners virtually any custom size, therefore no jamb extensions are required. Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The windows can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

The 3410 and 3410U Series is designed as an awning window (the unit or "vent" is hinged from the top, swinging outward from the bottom). Awning windows can be used alone or in tandem with other fiberglass windows for virtually any design need.

COMPONENTS

COMPOSITE FRAME

Milgard's WoodClad composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

The pultruded fiberglass frame components are made from reinforced pultruded fiberglass with a .080" structural wall thickness. The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

3410, 3410U Awning Windows

3000 SERIES FIBERGLASS

From inside of frame to nail flange is 1-7/8", and from outside of window frame to include nail fin is 1-3/8", to give you a 3-1/4" overall frame depth.

Joined frame and jamb extensions are available in standard widths of 4-9/16" or 6-9/16" for standard wall construction. Other custom widths are also available, subject to engineering review.

WOOD JAMB EXTENSIONS
Wood jamb extensions are an optional feature with all fiberglass windows. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL-ON FIN
A 1-1/4" pre-punched, flexible nail flange extends around the perimeter frame, securing the window in rough openings and acting as flashing. The 3410, 3410U Series is available without nailing fin or with Z-Bar™ flush fin retrofit trim for use as a replacement window.

GLAZING MATERIAL
Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS
Insulating dual glazed panes, 7/8" in overall thickness, are butyl sealed for energy efficiency, with Milgard SunCoat™ Low-E insulating glass standard in all glazing units.

LOCKING ASSEMBLY
Two lock points, standard on 3410, 3410U Series, provides added security and a tighter vent seal.

WEATHERSTRIPPING
The 3410, 3410U Series design allows two separate bulb seals to seal out the weather.

SCREEN
Screen frames are cambered aluminum roll form, reinforced with rigid plastic corner clips and 2 pull tab for removal. Screen frames are available in White and Champaign colors. The optional PureView fiberglass screen mesh is low visibility, strong, durable and easy to replace.

Screen frames are extruded aluminum with push pins. Screen frames are available in Tan, Brownstone, Black and Silver colors as well as premium wood veneer. The optional PureView fiberglass screen mesh is low visibility, strong, durable and easy to replace.

SIZING
All windows are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES
Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

Note:
- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

GRIDS
Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high.

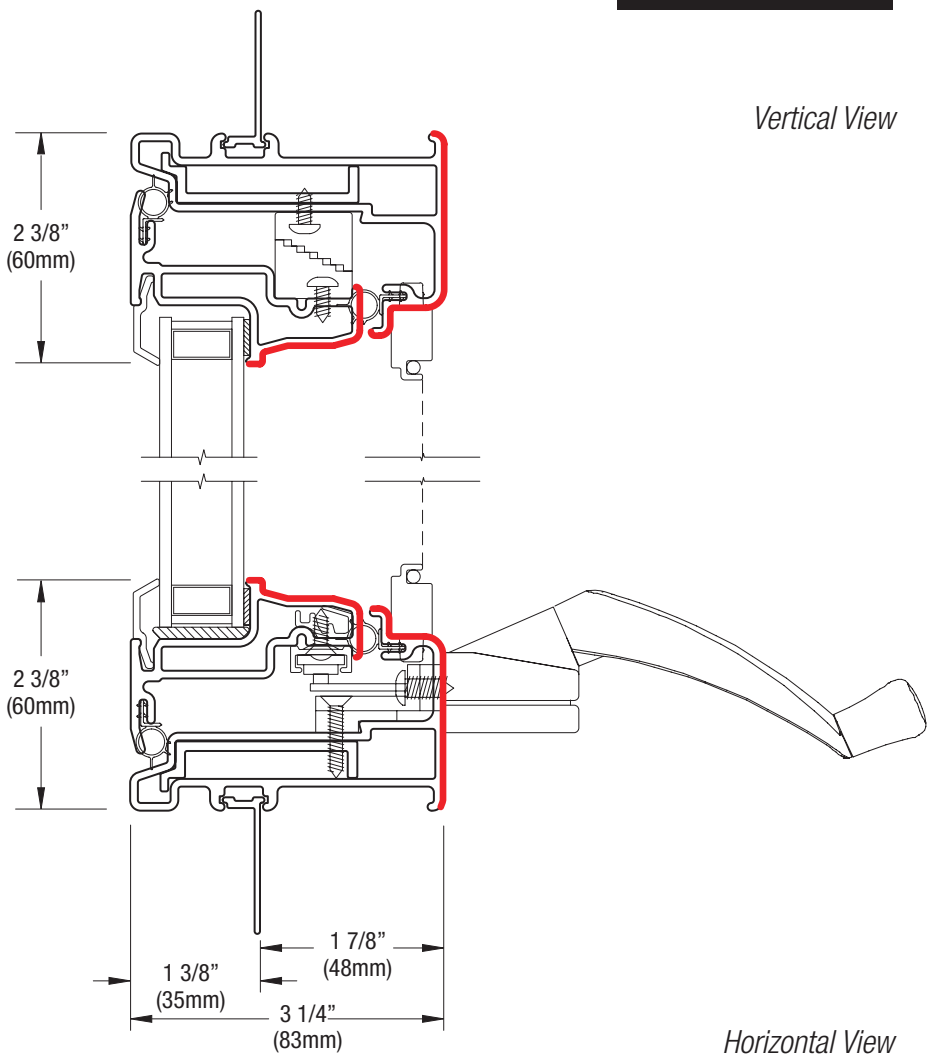
BRICKMOULD
A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

HARDWARE
Hardware is available in both painted and metal finishes. An optional fold-down operator handle is available in the same finish choices. Drapery knobs are available in white, clay and brass finishes. Stainless steel is standard for hinges.

3410 WoodClad Assembly Drawing

3000 SERIES FIBERGLASS

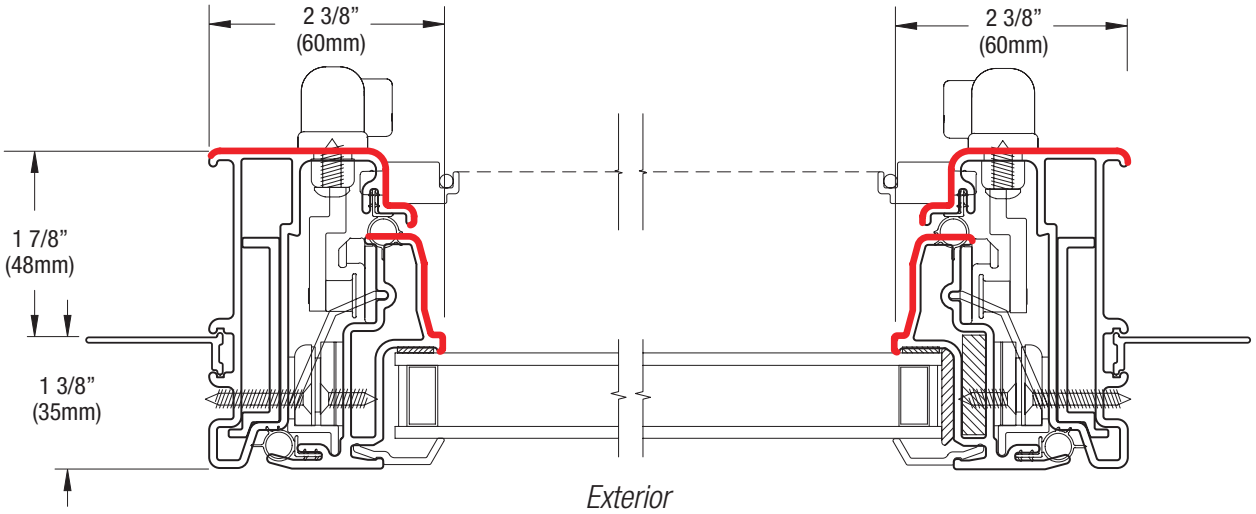
Vertical View



Exterior

Red indicates wood veneer

Horizontal View



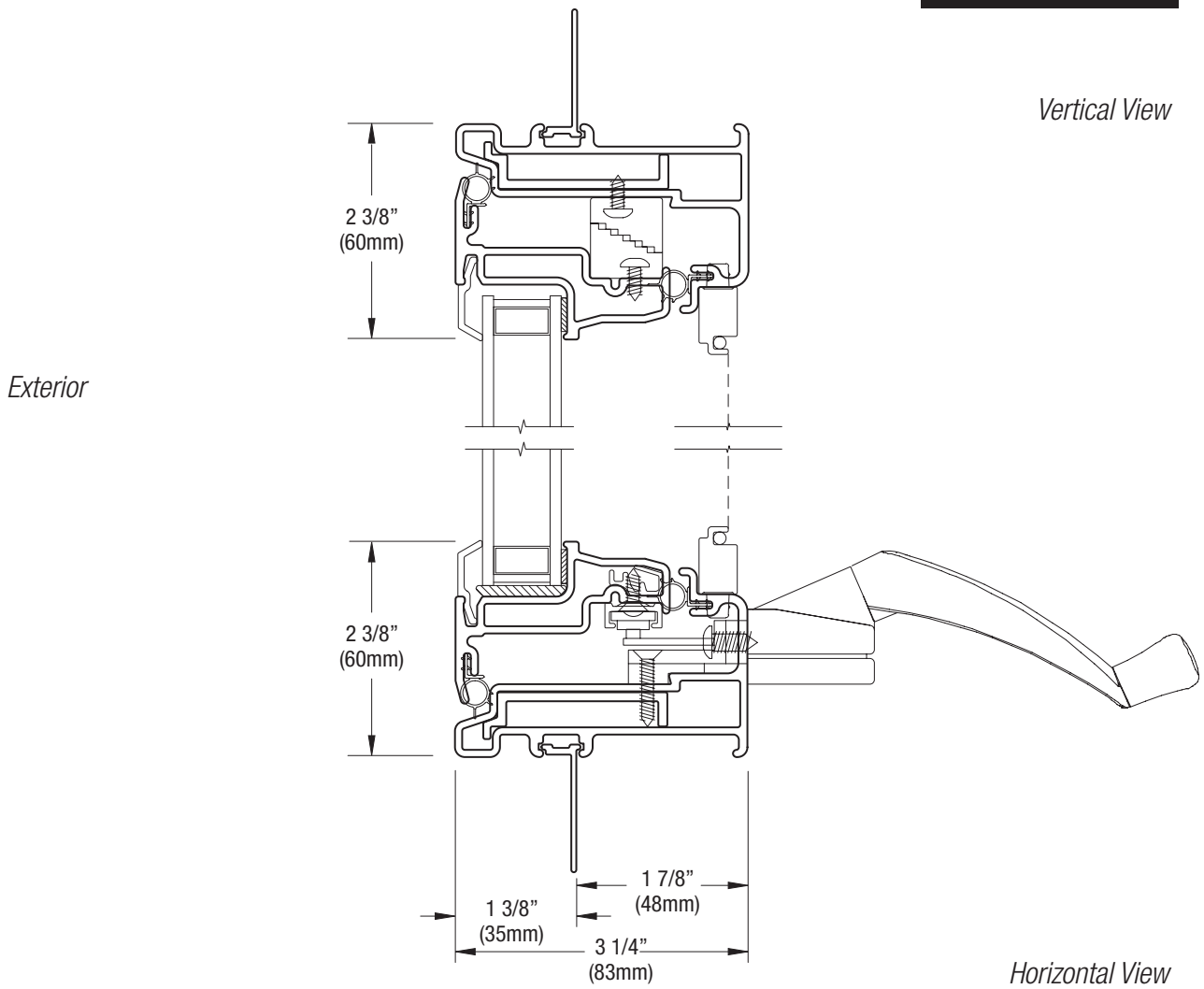
Exterior

Scale: 6" = 1' (1/2 scale)

3410U Ultra Assembly Drawing

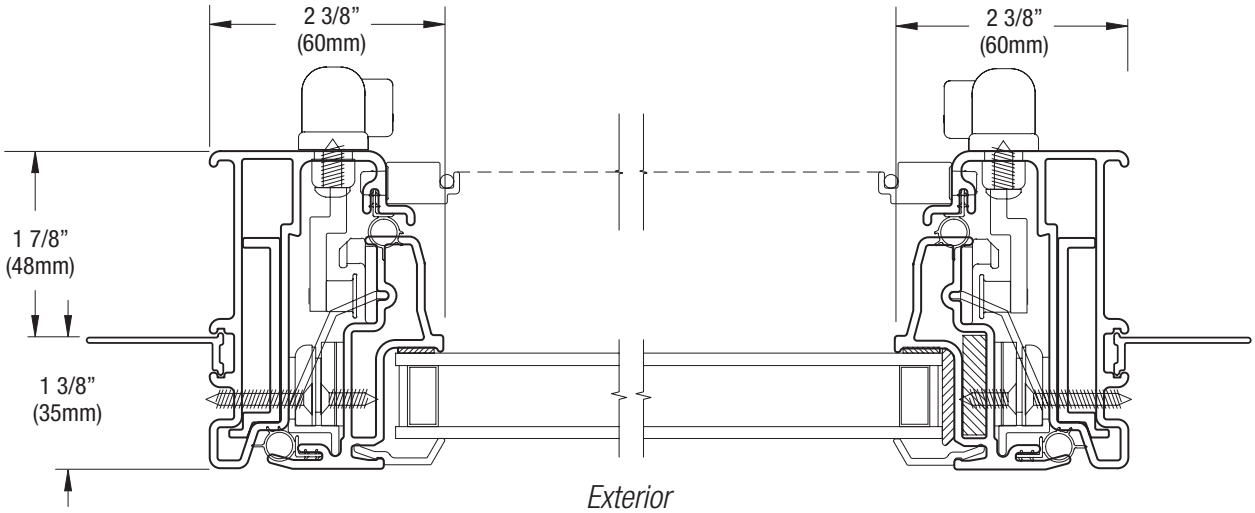
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View

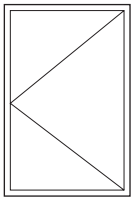


Exterior

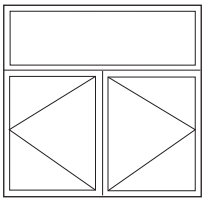
Scale: 6" = 1' (1/2 scale)

3510, 3510U Casement Windows

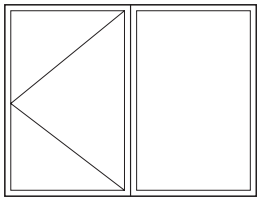
3000 SERIES FIBERGLASS



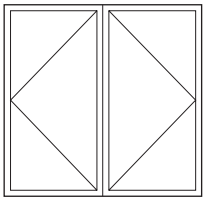
Full casement



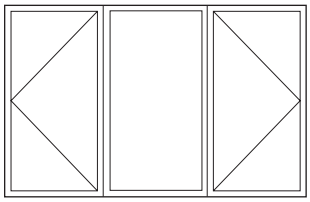
Double-bottom casement



Single casement



Double casement



Double casement/picture

- **FULL CASEMENT**
  - Min $1^{6}2^{0}$ Max $3^{0}5^{0}$ or $2^{6}6^{0}$
- **DOUBLE CASEMENT**
  - Min $3^{0}2^{0}$ Max $6^{0}5^{0}$ or $5^{0}6^{0}$

15 square feet maximum vent size
- Min vent width 1^{6} Max vent width 3^{0}
- Min vent height 1^{6} Max vent height 6^{0}

Minimum egress for casement is $2^{6}4^{0\,0}$ or $3^{0}3^{0}$

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications.

Windows over 40 square feet shipped open for field glazing. Varies by location.

WOOD FINISHING – WOODCLAD SERIES

The unfinished wood interior surfaces must be finished and sealed promptly for best results and protection. For maximum protection, finish the interior wood surfaces prior to, or immediately after installation. If the product is to be stored for any length of time before installation, avoid exposure to any moisture conditions. Do not expose the unfinished wood to high heat, high humidity, or excessive construction moisture conditions. Unfinished wood surfaces subject to water damage at the jobsite, or left unfinished before/after installation so that the wood interior surfaces become stained or damaged, will not be considered as "defective in materials or workmanship" under the terms of Milgard's Warranty. Do not apply any finishes to the weatherstrip.

3510, 3510U Casement Windows

3000 SERIES FIBERGLASS

The 3510, 3510U Series Casement in both WoodClad and Ultra Fiberglass Windows blend the energy efficiency and overall aesthetic appeal of wood windows with the low maintenance and structural integrity of pultruded fiberglass. Our available full finish wood liners are designed for both 2x4 and 2x6 construction. We can make your jamb extensions virtually any custom size. Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

The 3510 and 3510U Series is designed as a casement window (swinging outward from hinges on right or left side). Casement windows can be used alone or in tandem with other fiberglass windows for virtually any design need.

COMPONENTS

COMPOSITE FRAME

Milgard's WoodClad composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

From inside of frame to nail flange is 1-7/8", and from outside of window frame to include nail fin is 1-3/8", to give you a 3-1/4" overall frame depth.

3510, 3510U Casement Windows

3000 SERIES FIBERGLASS

Joined frame and liners are available in standard widths of 4-9/16" or 6-9/16" for standard wall construction. Other custom widths are also available, subject to engineering review.

WOOD JAMB EXTENSIONS
Wood jamb extensions are an optional feature with all fiberglass windows. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL-ON FIN
A 1-1/4" pre-punched, flexible nail flange extends around the perimeter frame, securing the window in rough openings and acting as flashing. The 3510, 3510U Series is available without nailing fin or with Z-Bar™ flush fin retrofit trim for use as a replacement window.

GLAZING MATERIAL
Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS
Insulating dual glazed panes, 7/8" in overall thickness, are butyl sealed for energy efficiency, with Milgard SunCoat™ Low-E insulating glass standard in all glazing units.

LOCKING ASSEMBLY
A multi-point locking mechanism, standard on 3510, 3510U Series, provides added security and a tighter vent seal. Milgard fiberglass casements come with 4-bar stainless steel hinges on head and sill.

WEATHERSTRIPPING
The 3410, 3410U Series design allows two separate bulb seals to seal out the weather.

SCREEN
Screen frames are cambered aluminum roll form, reinforced with rigid plastic corner clips and 2 pull tab for removal. Screen frames are available in White and Champaign colors. The optional PureView fiberglass screen mesh is low visibility, strong, durable and easy to replace.

Screen frames are extruded aluminum with push pins. Screen frames are available in Tan, Brownstone, Black and Silver colors as well as premium wood veneer. The optional PureView fiberglass screen mesh is low visibility, strong, durable and easy to replace.

SIZING
All windows are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES
Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

Note:
- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

GRIDS
Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high.

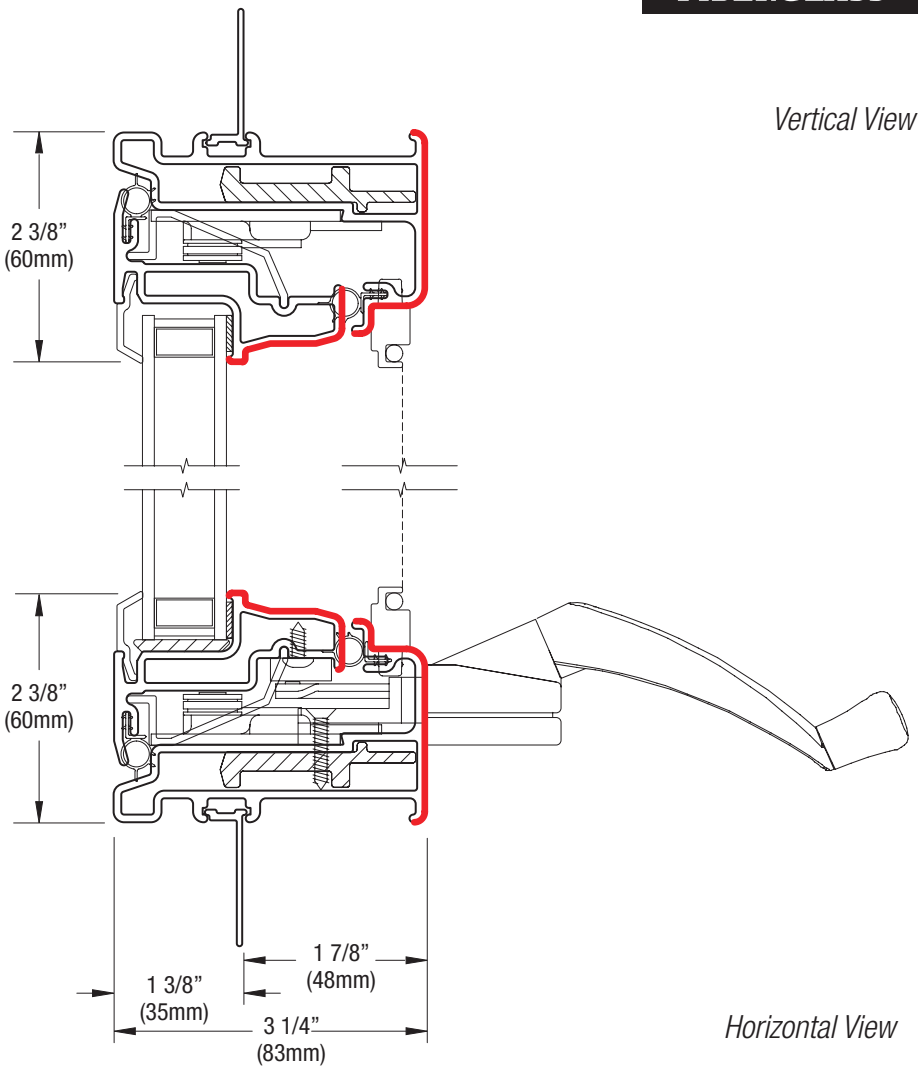
BRICKMOULD
A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

HARDWARE
Hardware is available in both painted and metal finishes. An optional fold-down operator handle is available in the same finish choices. Drapery knobs are available in white, clay and brass finishes. Stainless steel is standard for hinges.

3510 WoodClad Assembly Drawing

3000 SERIES FIBERGLASS

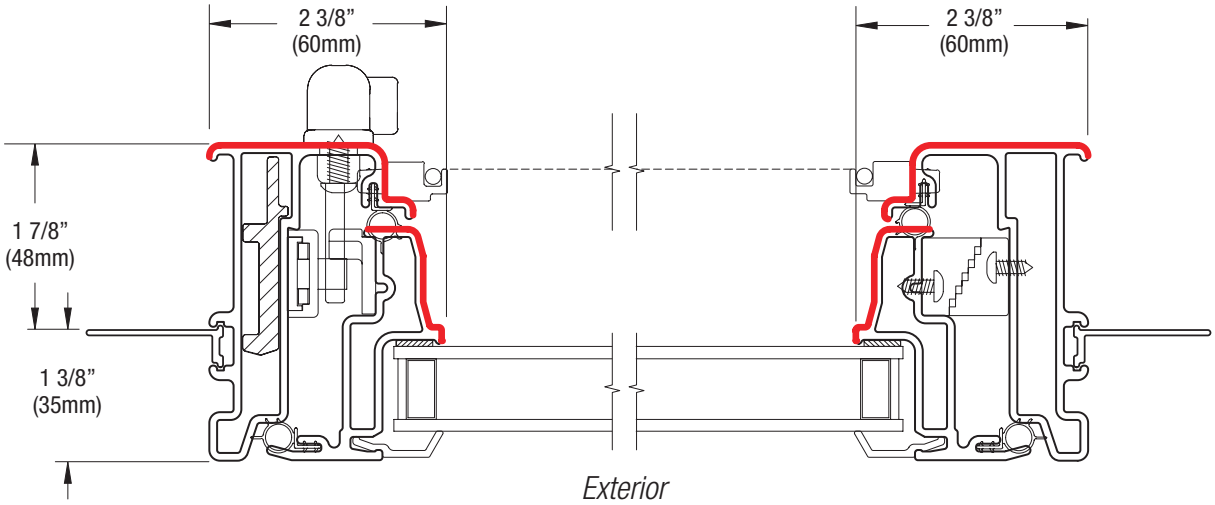
Vertical View



Exterior

Red indicates wood veneer

Horizontal View

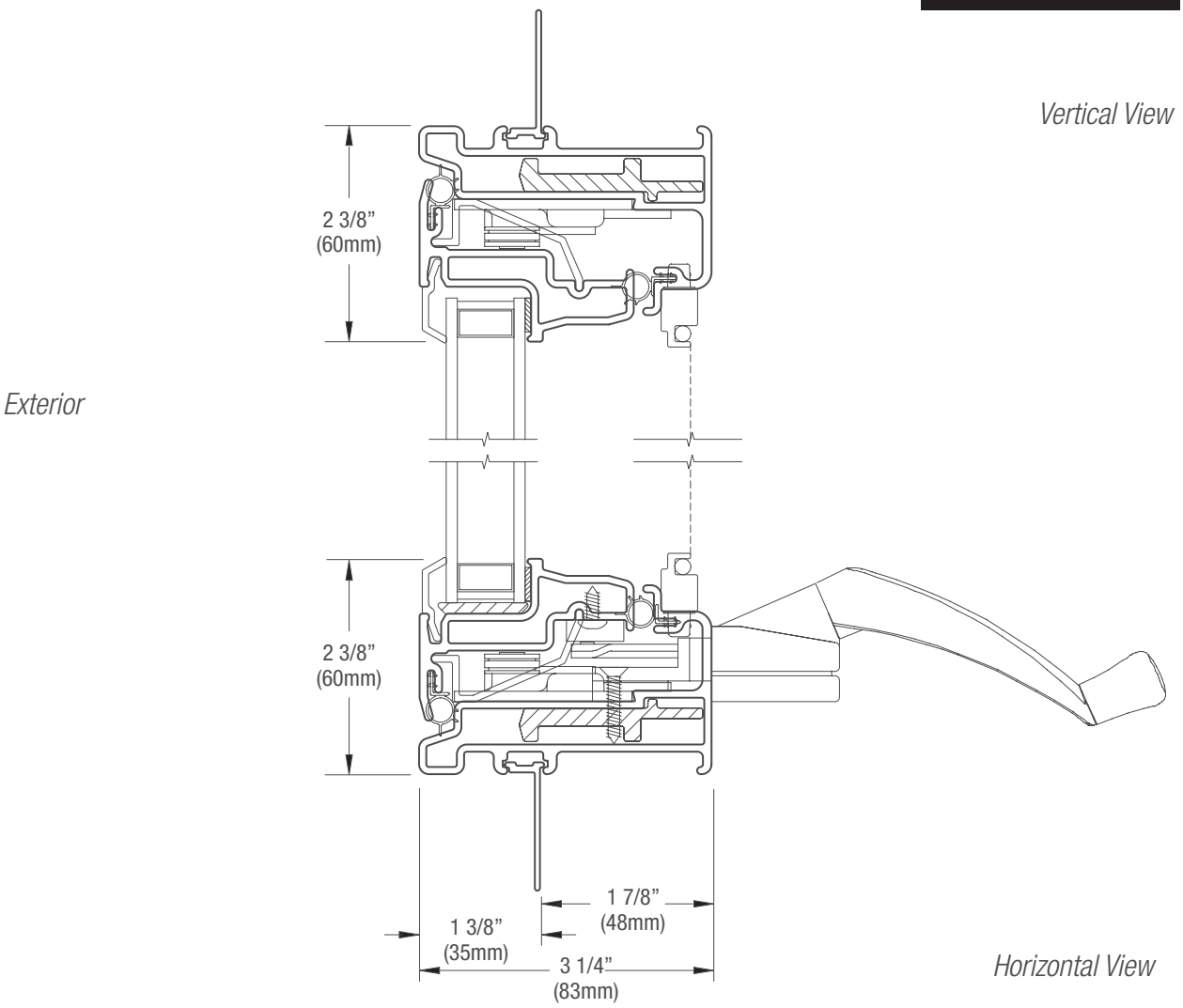


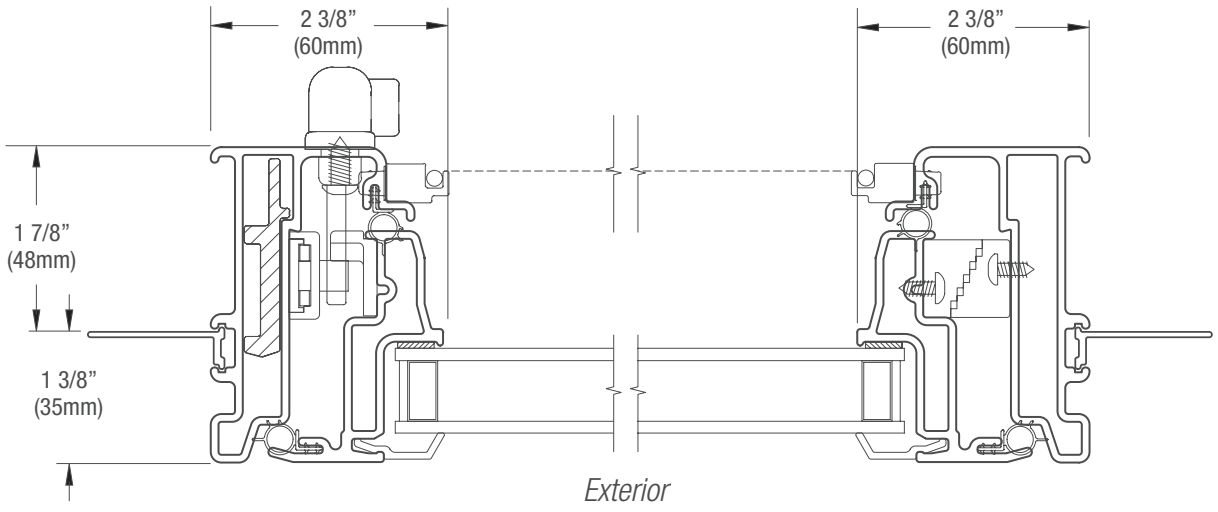
Exterior

Scale: 6" = 1' (1/2 scale)

3510U Ultra Assembly Drawing

3000 SERIES FIBERGLASS



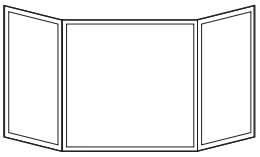


3510/3510U-5
FEBRUARY 2009

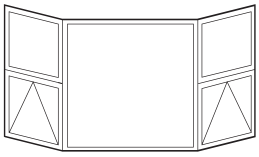
Scale: 6" = 1' (1/2 scale)

3000 Series Bay/Bow Windows

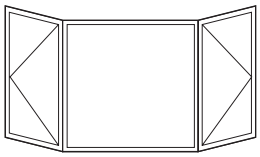
3000 SERIES FIBERGLASS



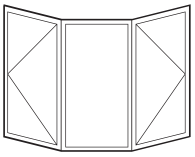
Bay picture



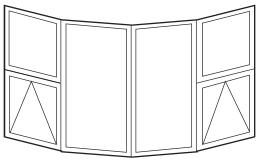
Bay awning



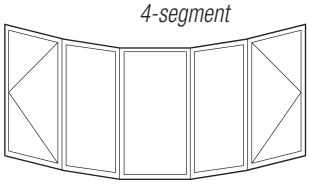
Bay casement



Bow window/casement 3-segment



Bow window/awning 4-segment



Bow window/casement 5-segment

- **BAY PICTURE**
  - Min 4⁰3⁰ Max 8⁰5⁰
- **BAY CASEMENT**
  (refer to casement/awning section for maximum vent size)
  - Min 4⁰3⁰ Max 8⁰5⁰
- **BAY AWNING**
  (refer to casement/awning section for maximum vent size)
  - Min 4⁰3⁰ Max 8⁰5⁰
- **BOW CASEMENT 3-SEGMENT**
  (refer to casement/awning section for maximum vent size)
  - Min 4⁶3⁰ Max 6⁰5⁰
- **BOW PICTURE 4-SEGMENT**
  - Min 6⁰3⁰ Max 8⁰5⁰
- **BOW AWNING 4-SEGMENT**
  (refer to casement/awning section for maximum vent size)
  - Min 6⁰3⁰ Max 7⁸5⁰
- **BOW CASEMENT 5-SEGMENT**
  (refer to casement/awning section for maximum vent size)
  - Min 7⁰3⁰ Max 9⁶5⁰

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications.

Windows over 40 square feet shipped open for field glazing. Varies by location.

WOOD FINISHING – WOODCLAD SERIES

The unfinished wood interior surfaces must be finished and sealed promptly for best results and protection. For maximum protection, finish the interior wood surfaces prior to, or immediately after installation. If the product is to be stored for any length of time before installation, avoid exposure to any moisture conditions. Do not expose the unfinished wood to high heat, high humidity, or excessive construction moisture conditions. Unfinished wood surfaces subject to water damage at the jobsite, or left unfinished before/after installation so that the wood interior surfaces become stained or damaged, will not be considered as "defective in materials or workmanship" under the terms of Milgard's Warranty. Do not apply any finishes to the weatherstrip.

3000 Series Bay/Bow Windows

3000 SERIES FIBERGLASS

The 3000 WoodClad Series and 3000U Ultra Series Fiberglass Bay and Bow Windows blend the energy efficiency and overall aesthetic appeal of wood windows with the low maintenance and structural integrity of pultruded fiberglass. Our available full finish wood liners are designed for both 2x4 and 2x6 construction. We can make your jamb extensions virtually any custom size. Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The windows can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

Milgard's Bay Windows include 18" or 24" "flankers" or side windows joined at 45° to a picture window in the center. Standard configuration for the picture window offers widths from 4' to 8' in 3', 4' or 5' heights. The flankers are vented using casement, awning, or double-hung windows. Milgard's Bow Windows are standard in 3', 4' or 5' heights with 18" or 24" wide panels joined at 15° in overall widths from 4'-4" to 9'-5".

Milgard WoodClad and Ultra Bay and Bow Windows are available in custom sizes to match almost any design, either new or retrofit. Head and seat boards come standard on all WoodClad and Ultra Bays and Bows

COMPONENTS

COMPOSITE FRAME

Milgard's WoodClad composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

3000 Series Bay/Bow Windows

3000 SERIES FIBERGLASS

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

From inside of frame to nail flange is 1-7/8", and from outside of window frame to include nail fin is 1-3/8", to give you a 3-1/4" overall frame depth. Please refer to drawings at the end of this section.

Joined frame and liners are available in standard widths of 4-9/16" or 6-9/16" for standard wall construction. Other custom widths are also available, subject to engineering review.

STRUCTURAL ALUMINUM INTERNAL MULLIONS

Mullions are thermally broken structural aluminum with a fiberglass cover. On the WoodClad Series, the fiberglass cover matches the premium wood veneer of the windows. On the Ultra Series, the fiberglass cover matches the interior color of the windows.

WOOD JAMB EXTENSIONS

Wood jamb extensions are an optional feature with all fiberglass windows. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

HEAD AND SEAT BOARDS

Standard on all WoodClad and Ultra Bays and Bows, head and seat boards of 3/4" thick finish-grade hardwood plywood come attached as a complete unit. Head and seat boards ship ready to stain or paint for final finish.

NAIL-ON FIN

A 1-1/4" pre-punched, flexible nail flange extends around the perimeter frame, securing the window in rough openings and acting as flashing. The 3000 Series is available without nailing fin for use as a replacement window.

GLAZING MATERIAL

Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS

Insulating dual glazed panes, 7/8" in overall thickness, are butyl sealed for energy efficiency, with Milgard SunCoat™ Low-E insulating glass standard in all glazing units.

WEATHERSTRIPPING

Weatherstripping is specific to the type of operating flanker, or side windows used in the Bay and Bow configurations.

WEEP SYSTEM

Primary weep system is located in hollow sill construction. Baffled weep holes drain water from track and help prevent blow-back, or water seeping to the inside caused by a combination of wind and rain. A secondary baffled weep system is located in the pultruded fiberglass glazing bead.

SCREEN

Screens are specific to the type of operating flanker, or side windows used in the Bay and Bow configurations.

SIZING

All windows are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES

Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

Note:

- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

GRIDS

Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high.

BRICKMOULD

A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

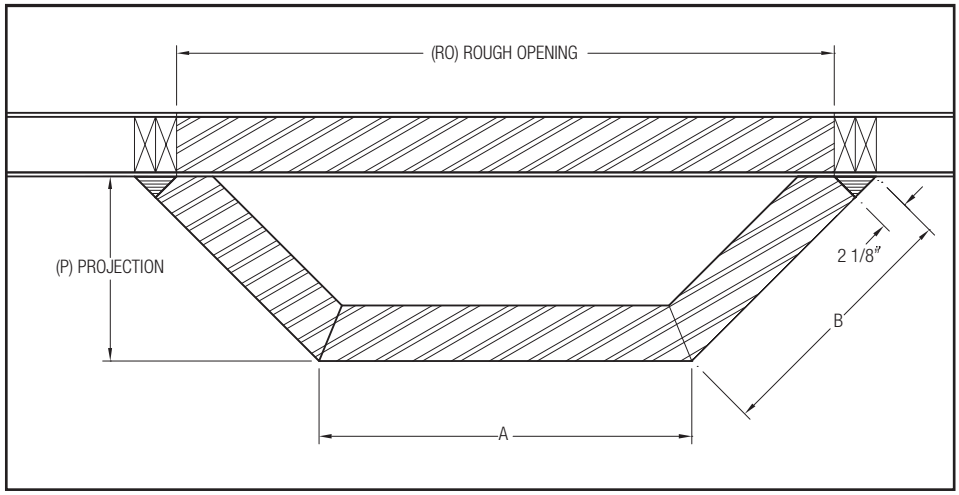
HARDWARE

Hardware is available in both painted and metal finishes. An optional fold-down operator handle is available in the same finish choices. Drapery knobs are available in white, clay and brass finishes. Stainless steel is standard for hinges.

3000 Series Bay/Bow Windows

3000 SERIES FIBERGLASS

WOODCLAD AND ULTRA FIBERGLASS BAY WINDOW FRAMING DETAIL



INSTALLATION

All Bay and Bow fiberglass windows are factory sized to fit in a framed opening, whether new or created by removing an existing window. Windows will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

Windows must be installed level, plumb and square with 1/4" clearance on all sides with weeep holes at the bottom.

SUPPORT

All Bay and Bow fiberglass windows must have substantial support from below. Full wall framing or 45° angle bracing is recommended.

NOTE:

For detailed framing information, please contact your Milgard representative.

CAUTION:

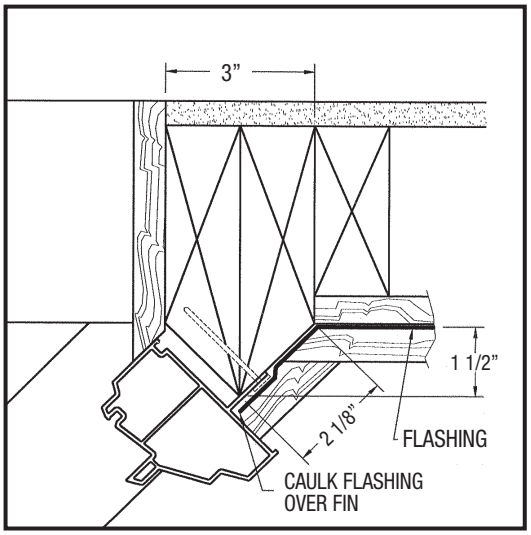
The use of petroleum-based fuels or solvents as release agents in stucco wall installations or window cleaning will chemically attack materials used in seals and other components and voids Milgard's Full Lifetime Warranty. The use of wax-based release agents is recommended.

		NAIL FIN SET BACK	
		1"	1 3/8"
18" FLANKERS*	A	DEDUCT 24" FROM RO	DEDUCT 23 3/4" FROM RO
	B	21 3/16"	21 1/16"
	P	15"	17 7/8"
NET WIDTH OF CENTER WINDOW		DEDUCT 26 5/8" FROM RO	DEDUCT 26 1/8" FROM RO
24" FLANKERS*	A	DEDUCT 32 1/2"	DEDUCT 32 1/4"
	B	27 3/16"	27 1/16"
	P	19 1/4"	19 1/8"
NET WIDTH OF CENTER WINDOW		DEDUCT 35 1/8" FROM RO	DEDUCT 34 5/8" FROM RO

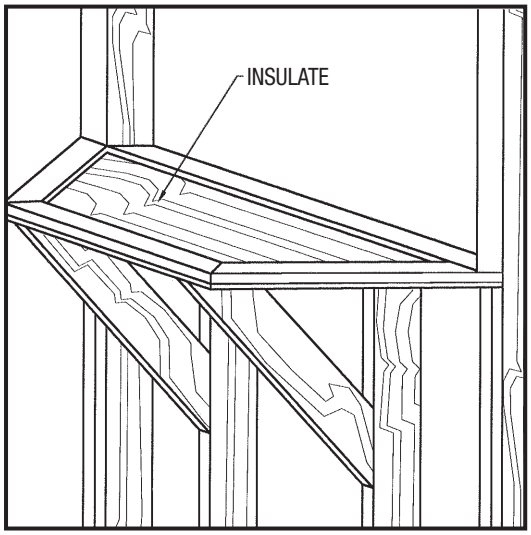
* Inquire regarding other flanker dimension availability if needed.

3000 Series Bay/Bow Windows

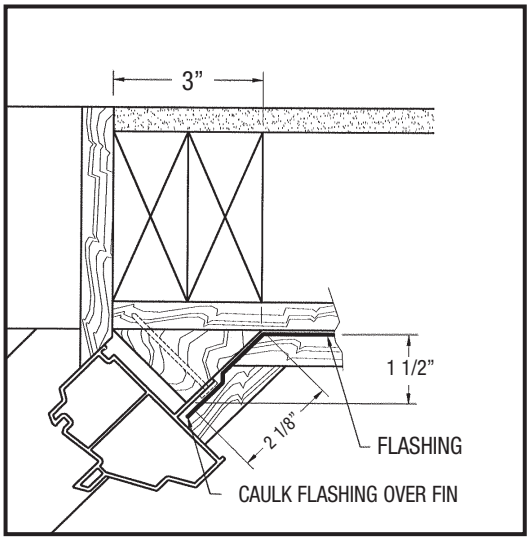
3000 SERIES FIBERGLASS



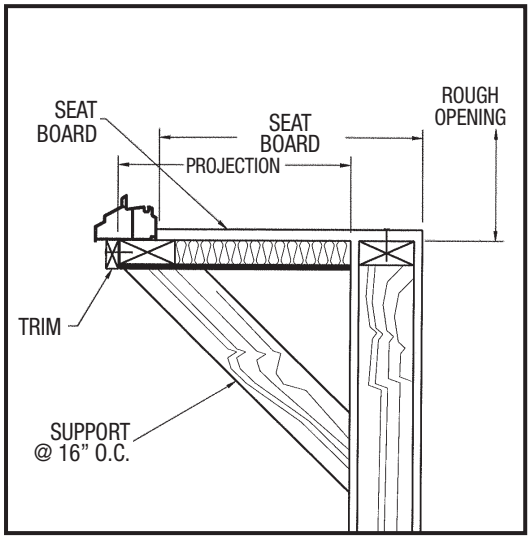
JAMB FIN DETAIL



SILL DETAIL PROJECTION



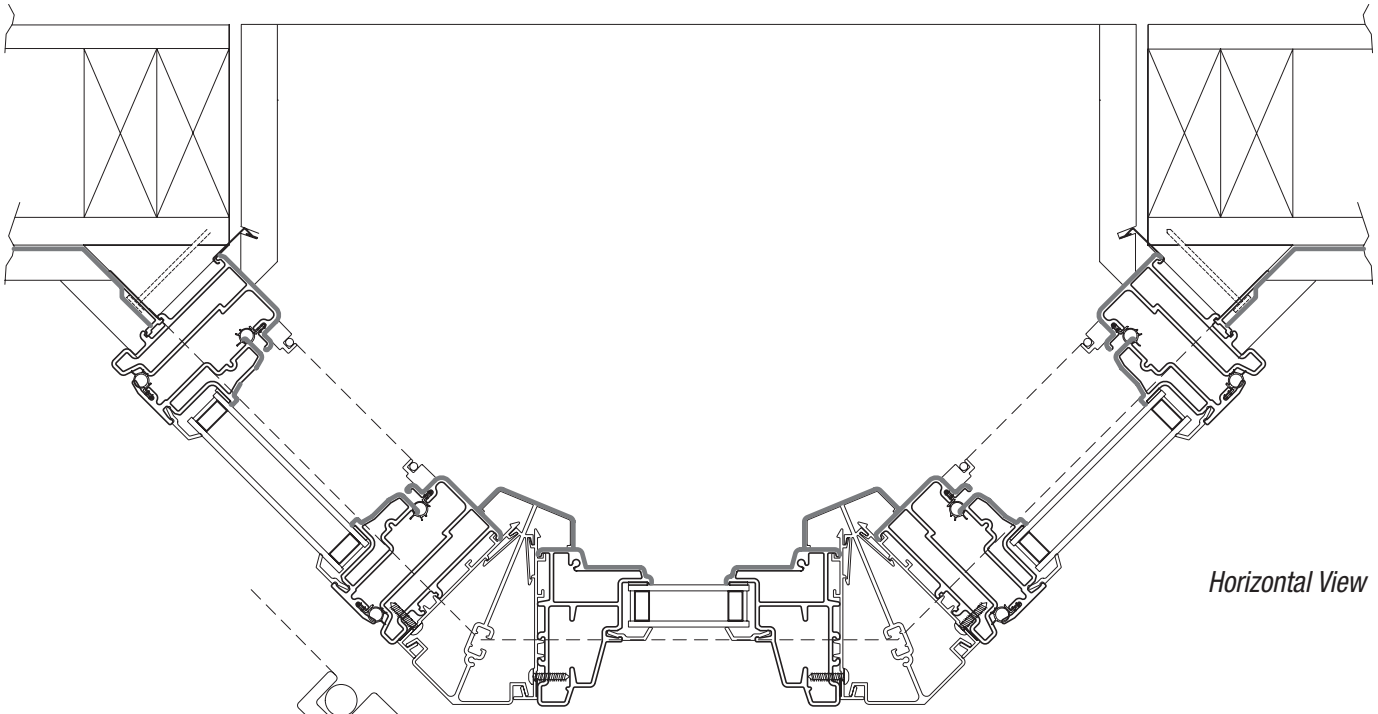
ALTERNATE JAMB FIN DETAIL



SILL DETAIL (HEAD IS SIMILAR)

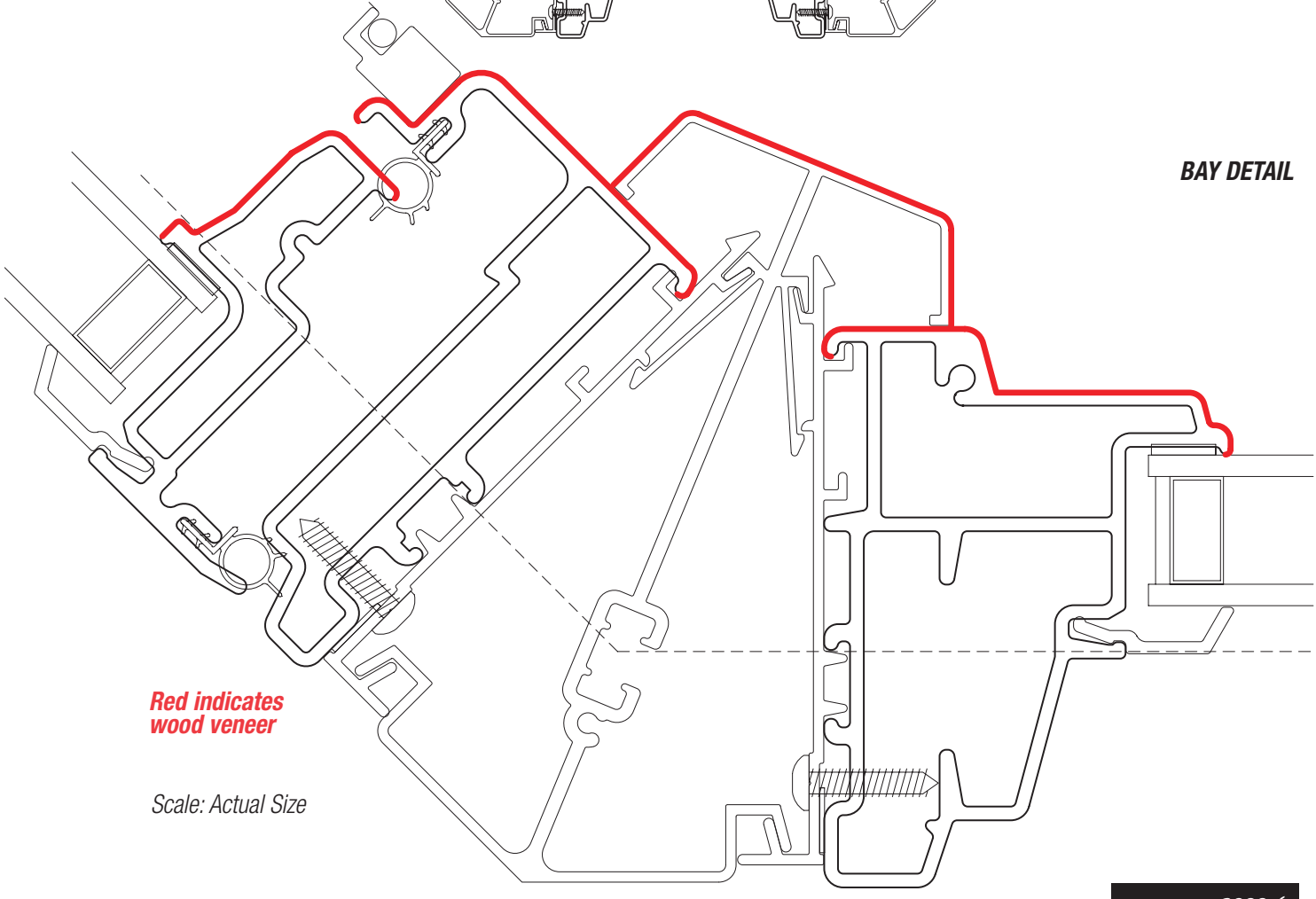
3000 WoodClad Bay Assembly Drawing

3000 SERIES FIBERGLASS



Horizontal View

BAY DETAIL

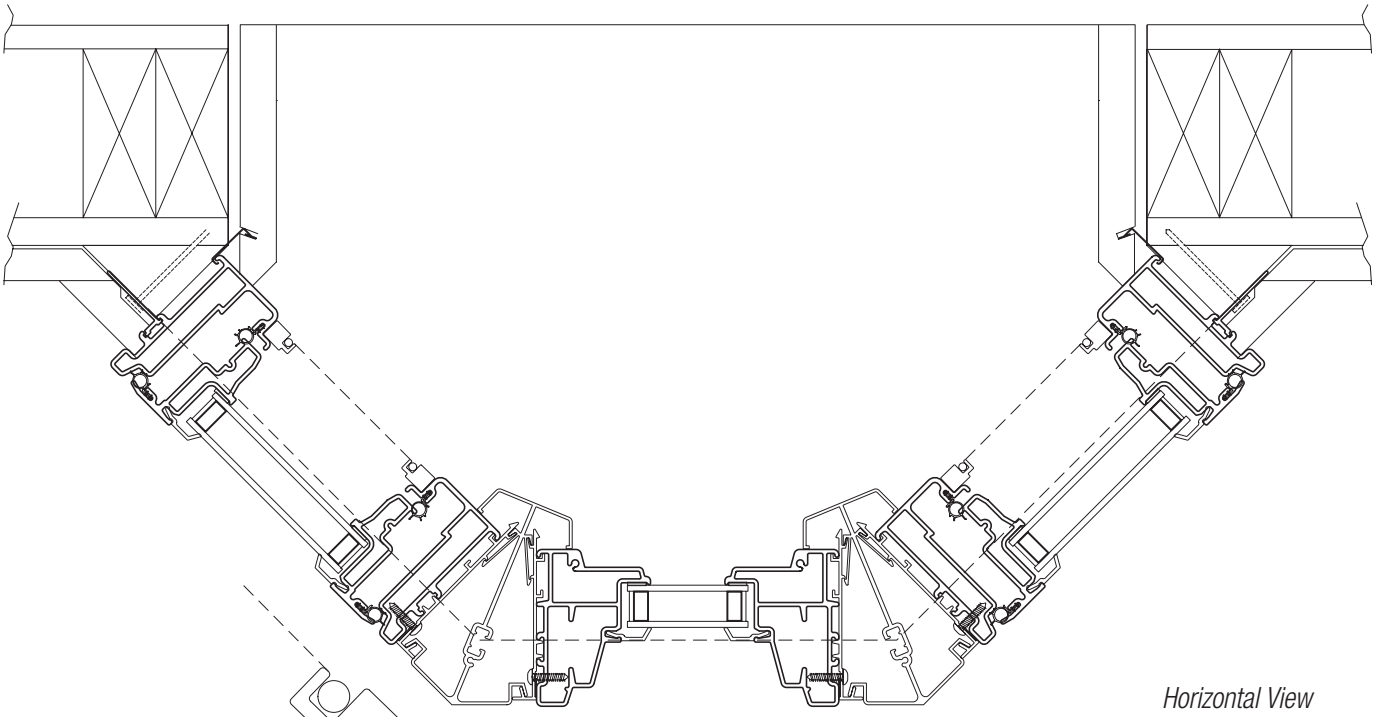


Red indicates wood veneer

Scale: Actual Size

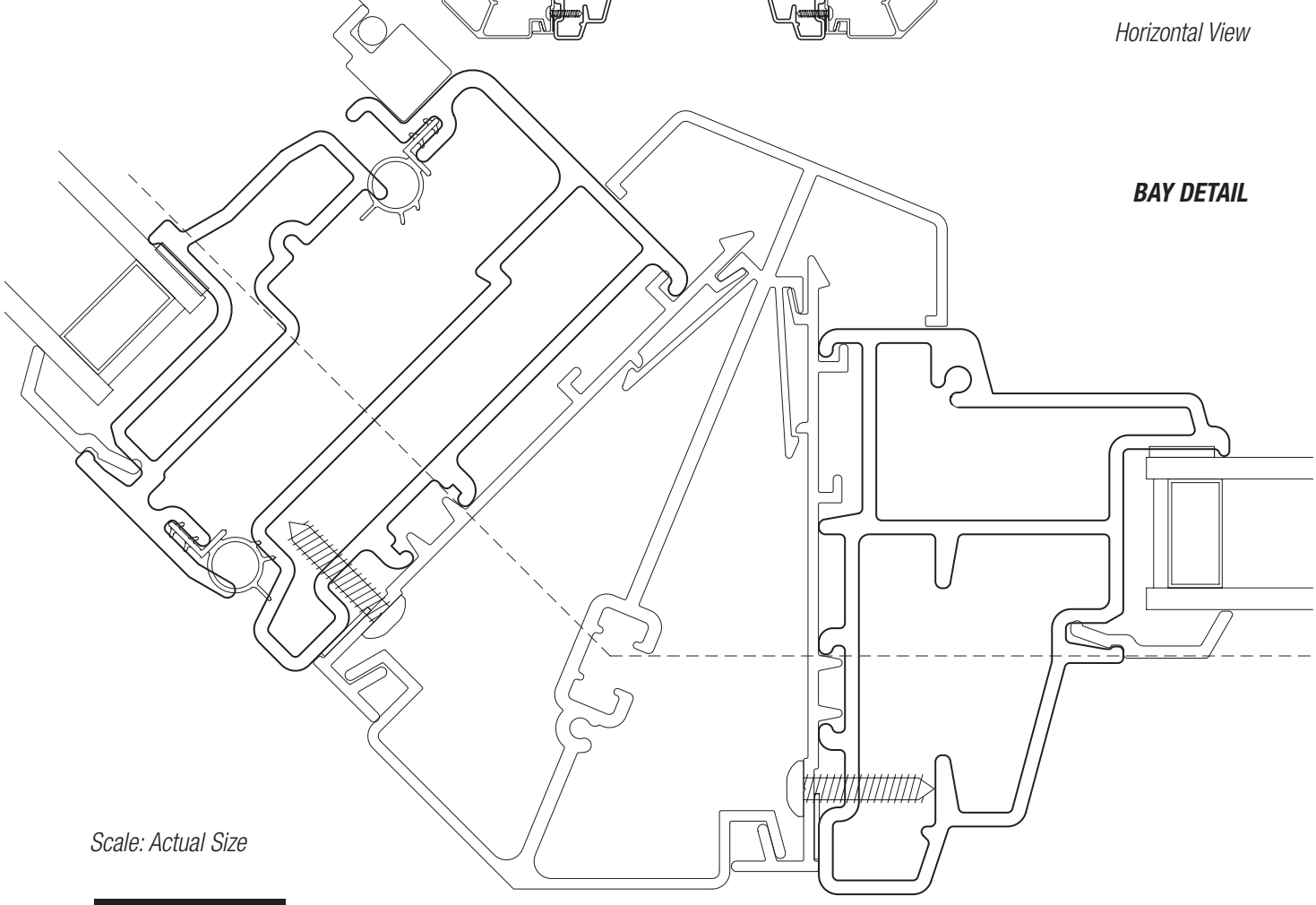
3000 Ultra Bay Assembly Drawing

3000 SERIES FIBERGLASS



Horizontal View

BAY DETAIL

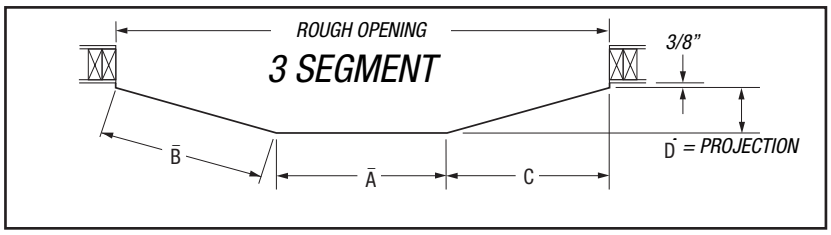


Scale: Actual Size

3000-7
FEBRUARY 2009

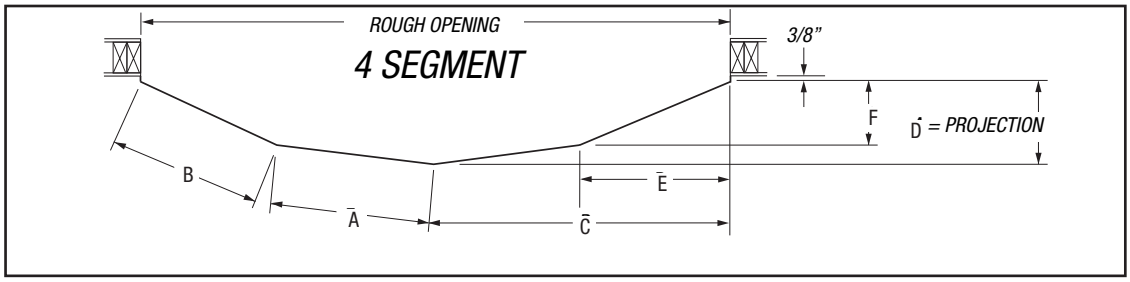
3000 Series Bow Windows

WOODCLAD AND ULTRA FIBERGLASS BOW WINDOW FRAMING DETAIL



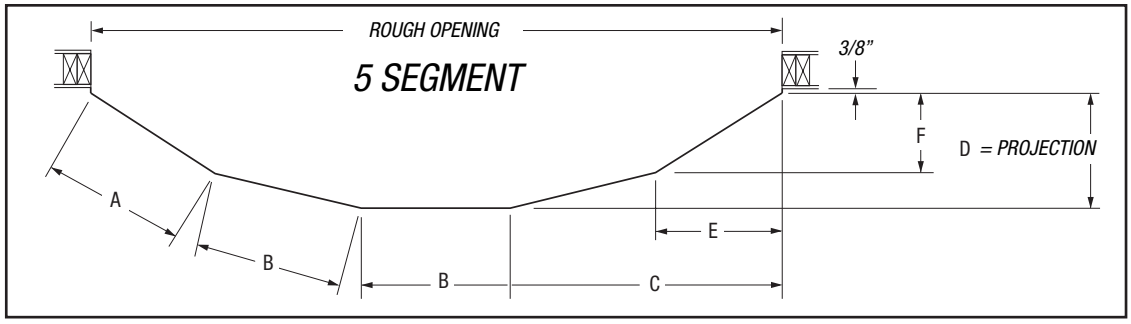
1-3/8" FIN SETBACK – 3 SECTIONS – 4.5625" WALL THICKNESS

RO WIDTH	A	B	C	D	NET WINDOW WIDTH
48	16 5/8"	16 1/4"	15 11/16"	4 3/16"	15 3/8"
60	20 11/16"	20 5/16"	19 11/16"	5 1/4"	19 7/16"
72	24 13/16"	24 7/16"	23 5/8"	6 5/16"	23 9/16"
84	28 7/8"	28 1/2"	27 9/16"	7 3/8"	27 5/8"



1-3/8" FIN SETBACK – 4 SECTIONS – 4.5625" WALL THICKNESS

RO WIDTH	A	B	C	D	E	F	NET WINDOW WIDTH
72	19"	18 5/8"	36"	9 5/8"	17 3/16"	7 1/8"	17 3/4"
84	22 1/8"	21 3/4"	42"	11 3/16"	20 1/16"	8 5/16"	20 7/8"
96	25 1/4"	24 7/8"	48"	12 13/16"	22 15/16"	9 1/2"	24"
108	28 3/8"	28"	54"	14 7/16"	25 7/8"	10 3/4"	27 1/8"
120	31 1/2"	31 1/8"	60"	16 1/16"	28 3/4"	11 15/16"	30 1/4"

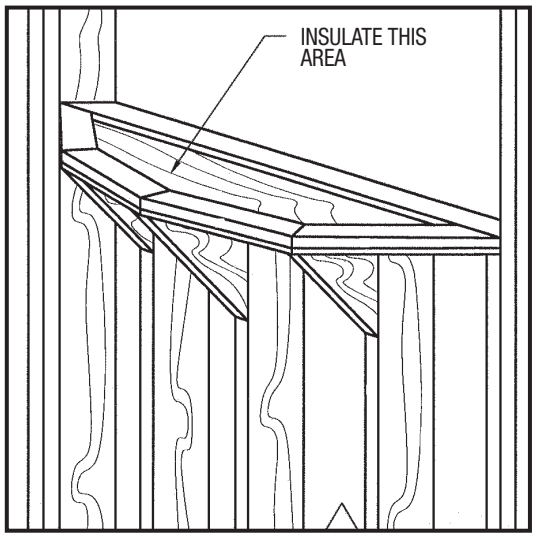


1-3/8" FIN SETBACK – 5 SECTIONS – 4.5625" WALL THICKNESS

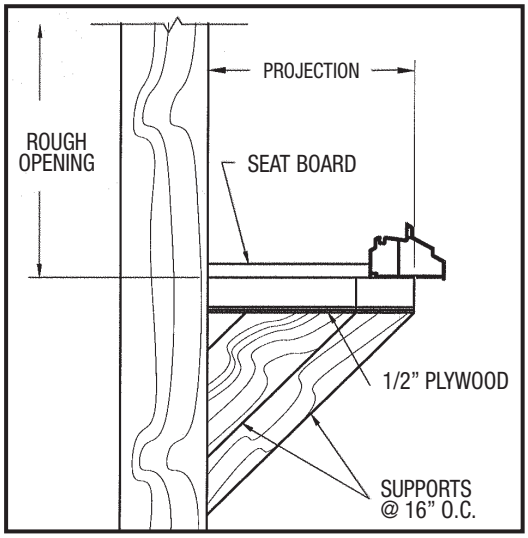
RO WIDTH	A	B	C	D	E	F	NET WINDOW WIDTH
96	20 3/8"	20 3/4"	37 5/8"	15 9/16"	17 5/8"	10 3/16"	19 1/2"
120	25 1/2"	25 7/8"	47 1/16"	19 7/16"	22 1/16"	12 3/4"	24 5/8"

3000 Series Bow Windows

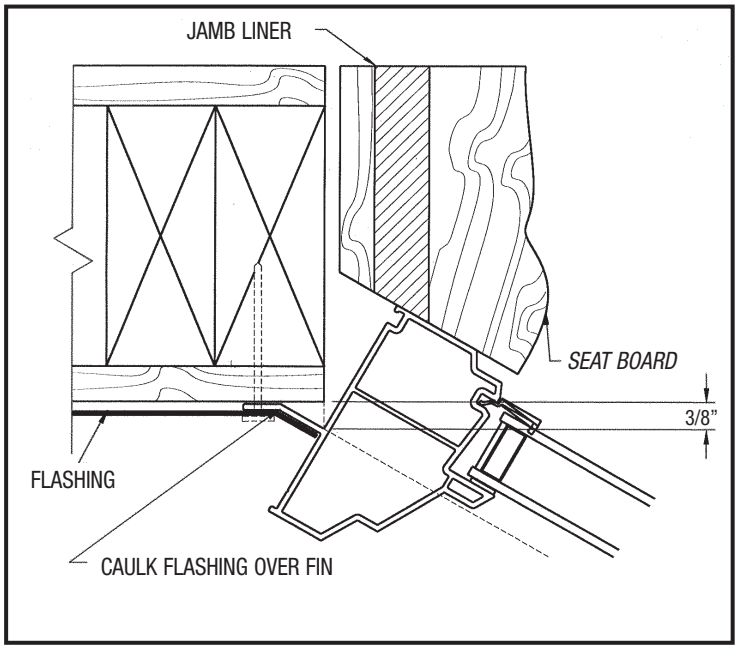
BOW FRAMING DETAIL



SILL DETAIL PROJECTION



SILL DETAIL (HEAD IS SIMILAR)

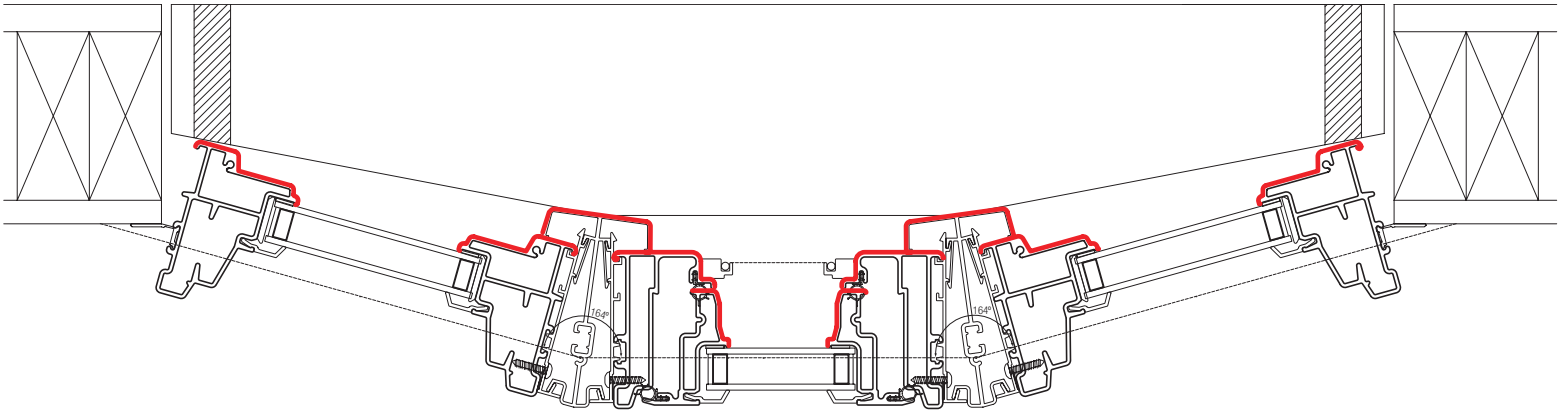


JAMB DETAIL

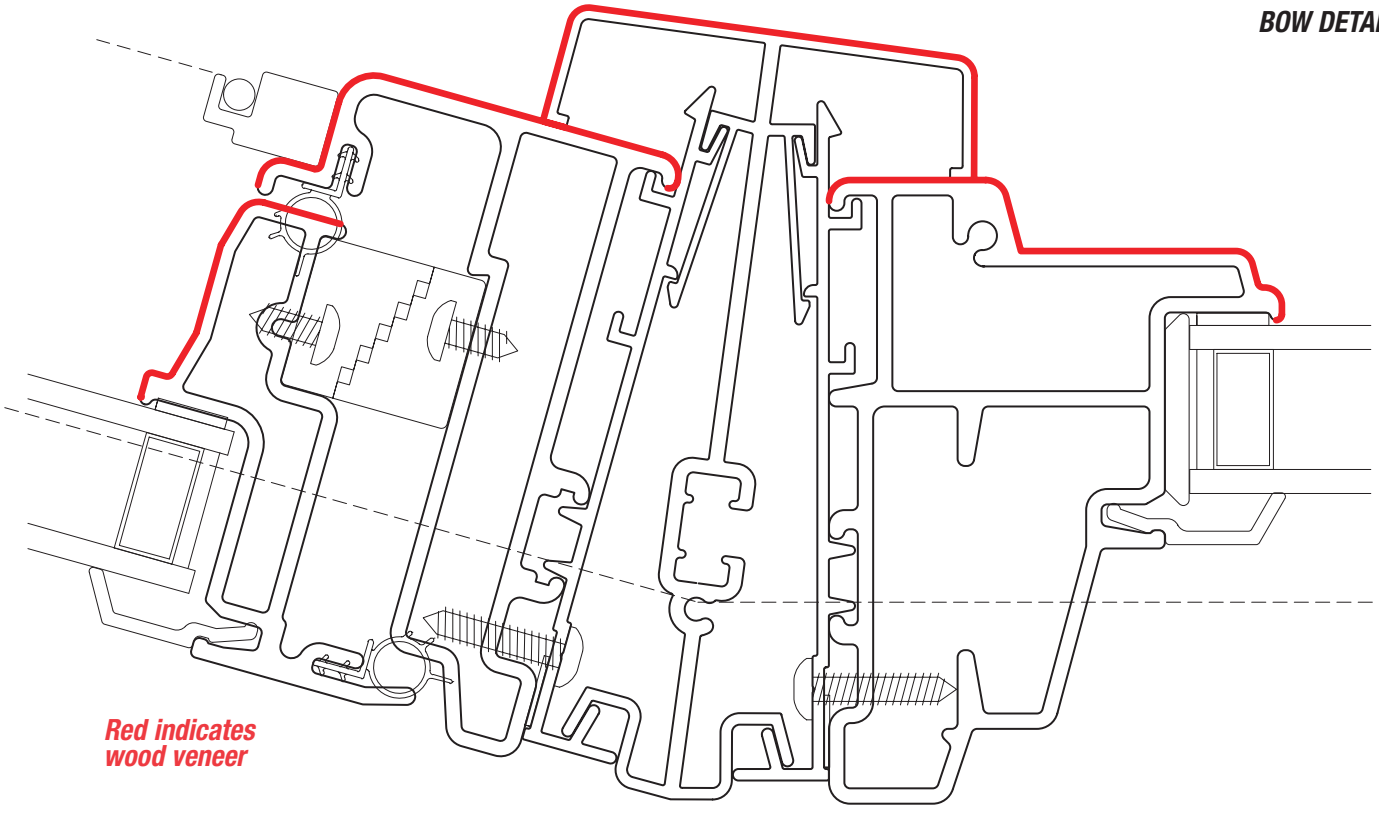
3000 WoodClad Bow Assembly Drawing

3000 SERIES FIBERGLASS

Horizontal View



BOW DETAIL



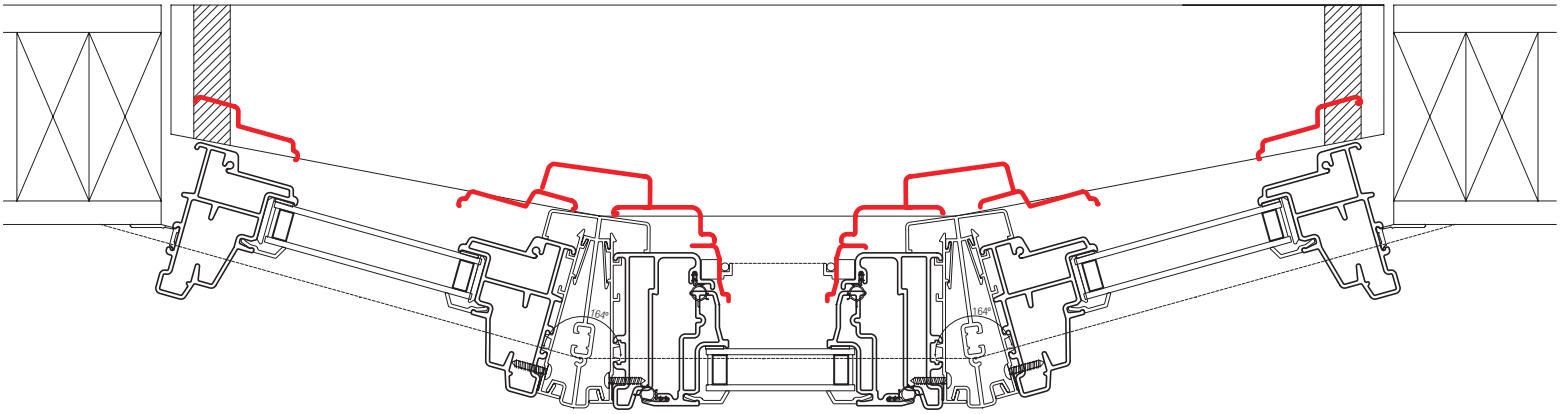
Red indicates wood veneer

Scale: Actual Size

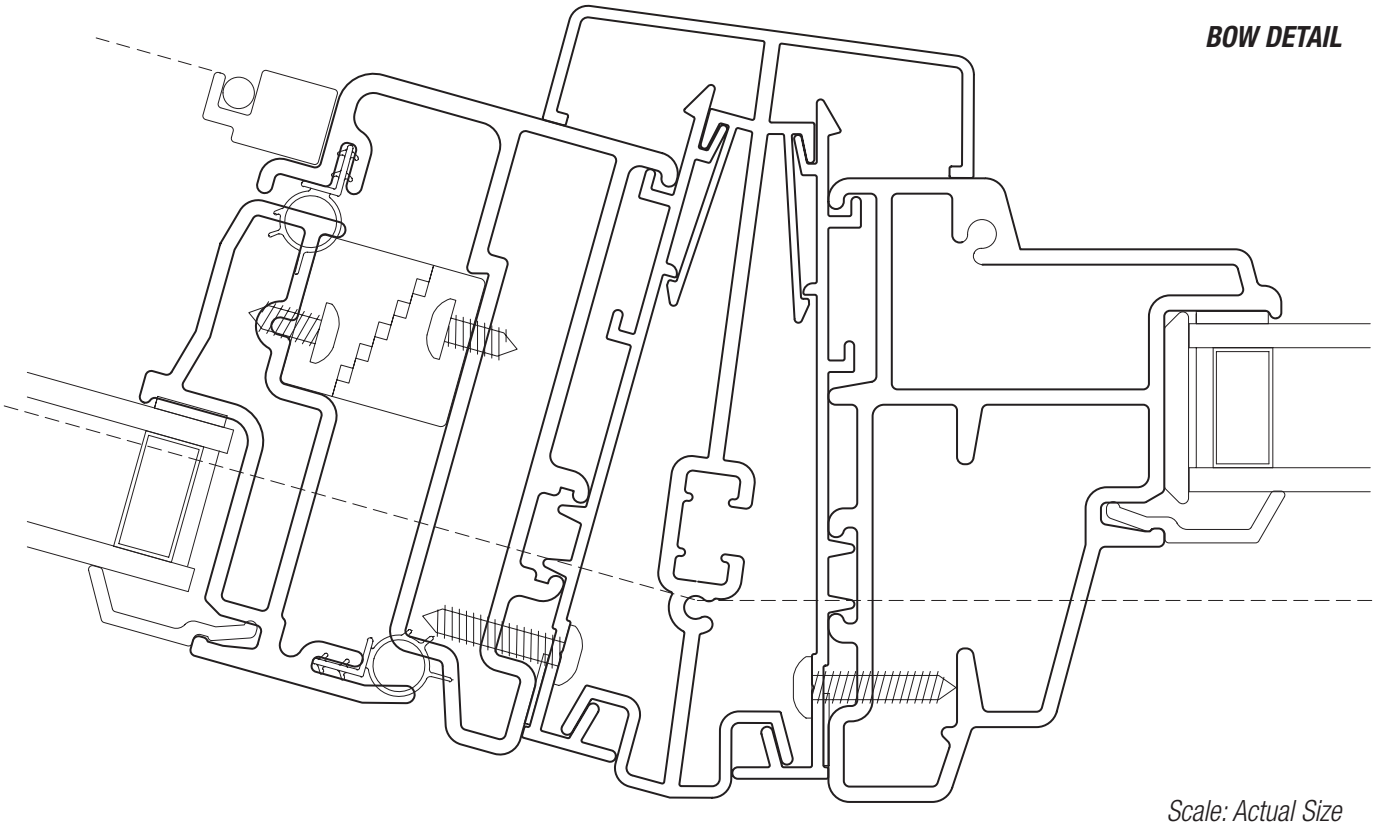
3000 Ultra Bow Assembly Drawing

3000 SERIES FIBERGLASS

Horizontal View



BOW DETAIL

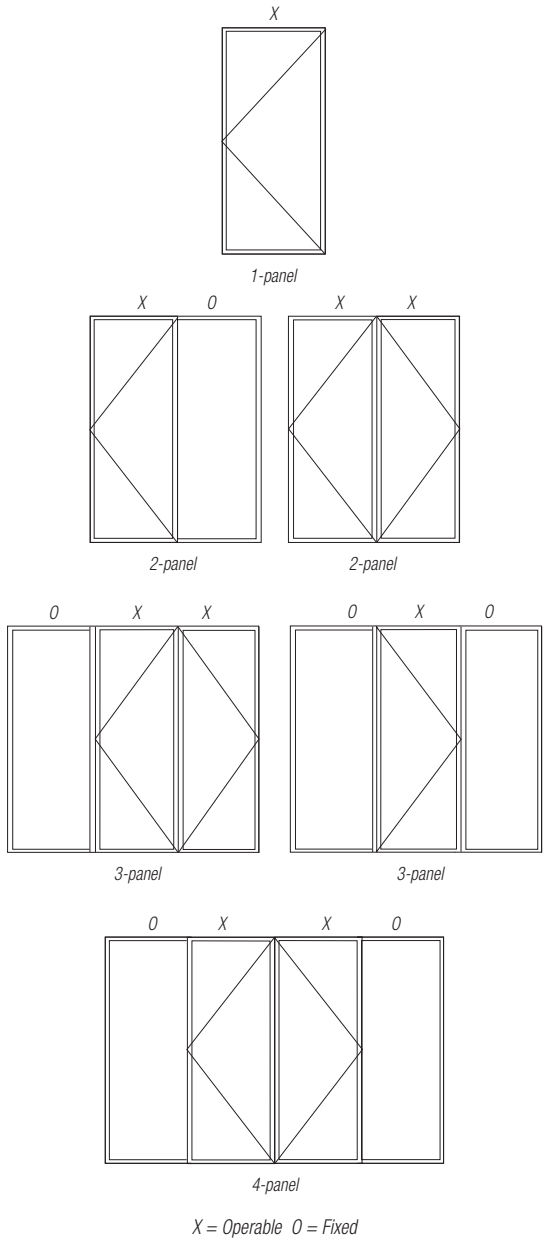


Scale: Actual Size

3000-11
FEBRUARY 2009

3623 & 3623U Series
Fiberglass Out-swing French Doors

3000 SERIES FIBERGLASS



X = Operable O = Fixed

1-PANEL
- Min 1⁶6⁰ Max 3⁰8⁰

2-PANEL
- Min 5⁰6⁰ Max 6⁰8⁰

3-PANEL
- Min 7⁶6⁰ Max 9⁰8⁰

4-PANEL
- Min 10⁰6⁰ Max 12⁰8⁰

SPECS
- 1, 2, 3, 4 - panel
- Special size doors available*
- O - fixed panel
- Keyed lock available (Schlage®-compatible)
- Frame depth 4-9/16", 6-9/16"
- Overall glass thickness 7/8"
- Door hand to be determined when ordering
- Door hand viewed from exterior

RECOMMENDED STANDARD SIZES

rough opening width

height	30"	36"	60"	72"	96"	108"	120"	144"
6'-8"	1	1	2	2	3	3	4	4
6'-10"	1	1	2	2	3	3	4	4
8'-0"	1	1	2	2	3	3	4	4

Number indicates number of panels

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications.

**3 & 4 panel units ship open for field glazing*

WOOD FINISHING – WOODCLAD SERIES

The unfinished wood interior surfaces must be finished and sealed promptly for best results and protection. For maximum protection, finish the interior wood surfaces prior to, or immediately after installation. If the product is to be stored for any length of time before installation, avoid exposure to any moisture conditions. Do not expose the unfinished wood to high heat, high humidity, or excessive construction moisture conditions. Unfinished wood surfaces subject to water damage at the jobsite, or left unfinished before/after installation so that the wood interior surfaces become stained or damaged, will not be considered as "defective in materials or workmanship" under the terms of Milgard's Warranty. Do not apply any finishes to the weatherstrip.

3623 & 3623U Series
Fiberglass Out-swing French Doors

3000 SERIES FIBERGLASS

The 3623 WoodClad Series and 3623U Ultra Series Fiberglass Out-Swing French Doors blend the energy efficiency and overall aesthetic appeal of wood French patio doors with the low maintenance and structural integrity of pultruded fiberglass. Both series provide door units sized for common 4-9/16" or 6-9/16" wall thicknesses, and in one, two, three or four panel configurations. Factory mulled transoms are available. Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The patio doors can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

The 3623 and 3623U Series is designed as an out-swinging French Patio Door with center swing or jamb swing capabilities in one, two, three and four-panel configurations. The 3623 and 3623U Series Out-Swing French Doors are designed to match flawlessly with Milgard Fiberglass Picture Windows for transom configurations.

The 3623 and 3623U Series Doors come pre-hung for easy installation.

COMPONENTS

WOODCLAD FRAME

Milgard's WoodClad Out-Swing French Door composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

3623 & 3623U Series
Fiberglass Out-swing French Doors

3000 SERIES FIBERGLASS

The door panels are 1-3/4" in thickness while jambs are available in standard thicknesses of 4-9/16" or 6-9/16".

The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

Each corner joint and lock mechanism is reinforced with thermally broken structural extruded aluminum. Two nail fin setbacks are offered at 1-3/8" and 1".

In the WoodClad Series, interior reveals feature clear wood veneer. The Ultra Series interior reveals a clean, white painted finish. Other standard interior colors are available.

WOOD JAMB EXTENSIONS
Wood jamb extensions are an optional feature with all fiberglass doors. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL FIN
A 1" wide nailing fin is standard for standard installations, with setback positions offered at 1-3/8" and 1". The fin creates a sturdy flange for securing the door into an opening.

GLAZING MATERIAL
Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS
Insulating tempered dual glazed glass, 7/8" in overall thickness, is butyl sealed for longevity and energy efficiency. The unit has an ASTM E-774-81 Class A rating. Specialty glass options such as Milgard SunCoat™ Low-E insulating glass, obscures and tints are available upon request.

GRIDS
Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high. A 4'0" x 3'0" single-hung would be four wide x four high because of the intermediate horizontal bar.

WEATHERSTRIPPING
Extruded soft vinyl compression weatherstripping maintains weather-tight seal around jambs and head. At the bottom edge of the door, a seal is created with the sill using double-fin rubber sill sweep weatherstrip material.

HARDWARE
The 3623 and 3623U Series comes standard with multi-point lock of stainless steel, three locking points on jamb and keyed exterior (active side has multi-point operator; passive side places flush bolts in head and sill). Handle sets available in multiple finishes.

HINGES
Three solid brass 4-1/4" adjustable (vertical and horizontal) hinges with four 2-1/2" screws per hinge for attachment with one of Milgard's standard finishes.

SILL
Bronze-colored pultruded fiberglass with sputter-coat, non-skid textured finish.

TRANSOMS
Arch and rectangular transoms are available mulled to the door unit.

SIZING
All doors are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Doors will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES
Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

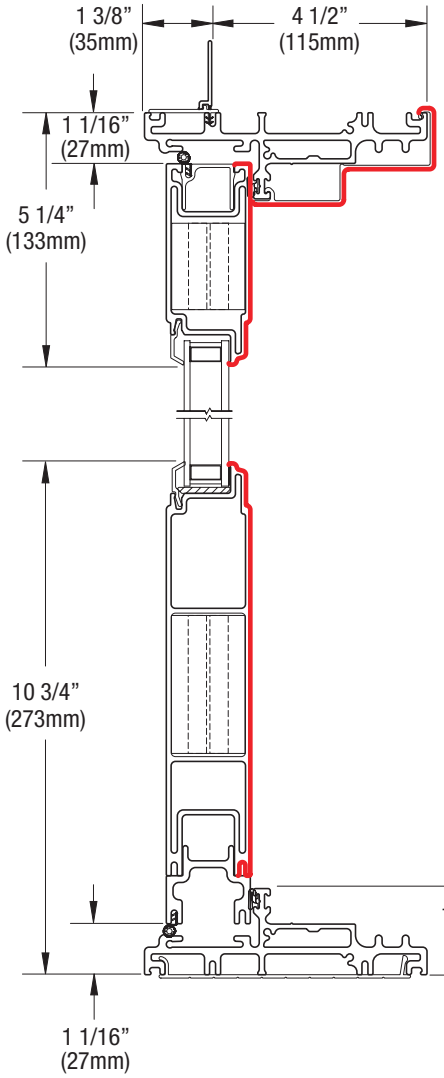
Note:
- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

BRICKMOULD
A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

SCREEN
An optional retractable screen unit is available, housed in an extruded aluminum canister unit. Canister unit colors are available in white, tan, brownstone and matte black. Screen mesh used is charcoal-colored fiberglass mesh.

3623 WoodClad French Door 1-Panel (X) Assembly Drawing

3000 SERIES FIBERGLASS

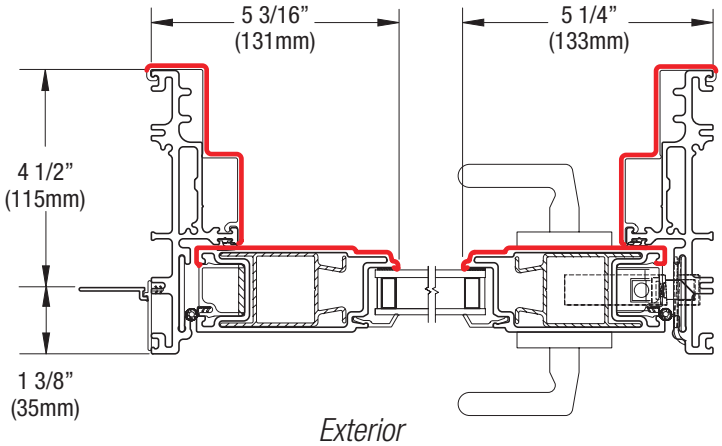


Vertical View

Exterior

Red indicates wood veneer

Horizontal View

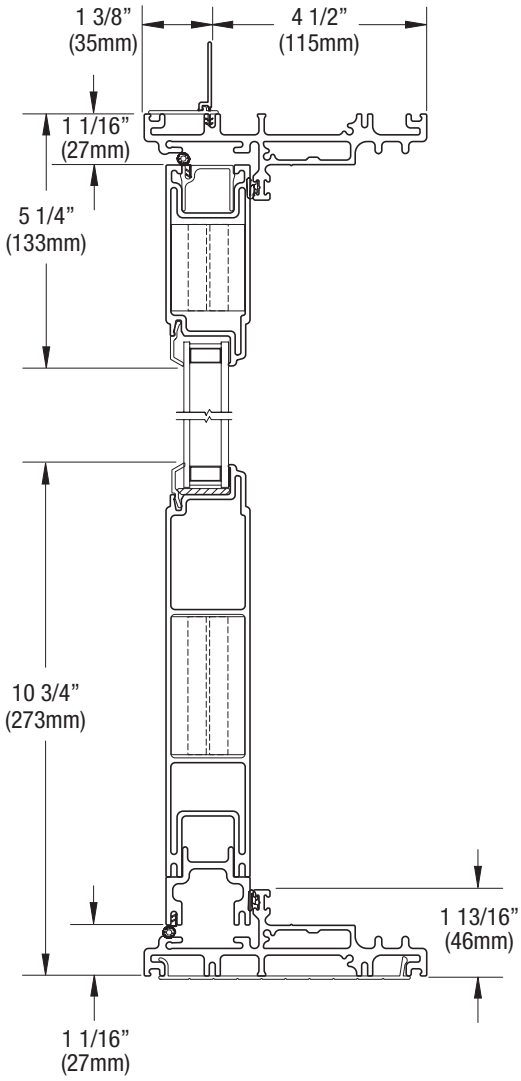


Exterior

Scale: 3" = 1' (1/4 scale)

3623U Ultra French Door 1-Panel (X) Assembly Drawing

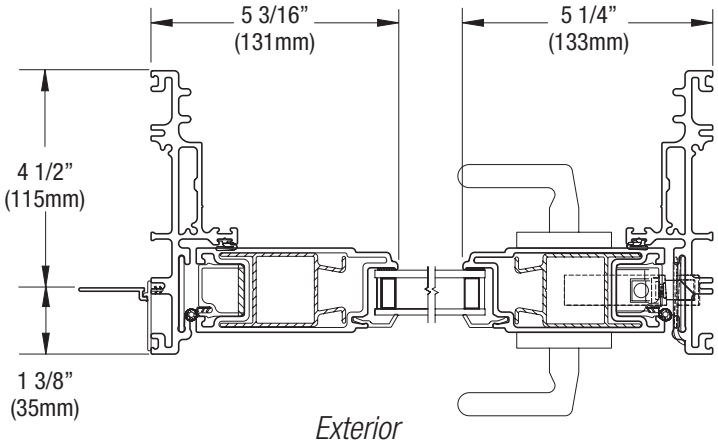
3000 SERIES FIBERGLASS



Vertical View

Exterior

Horizontal View



Exterior

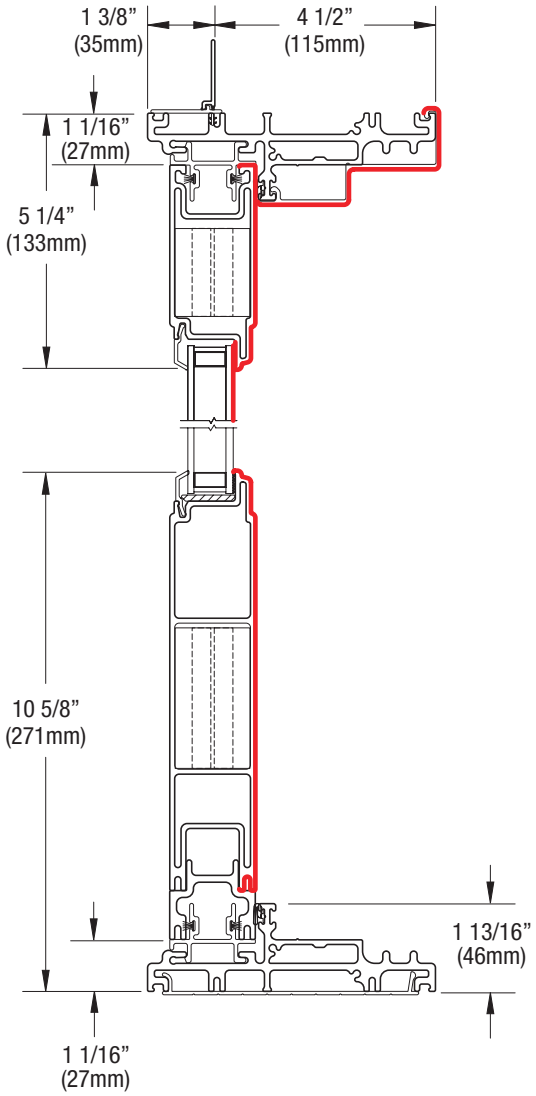
Scale: 3" = 1' (1/4 scale)

3623/3623U-5
FEBRUARY 2009

3623 WoodClad French Door 2-Panel (OX) Assembly Drawing

3000 SERIES FIBERGLASS

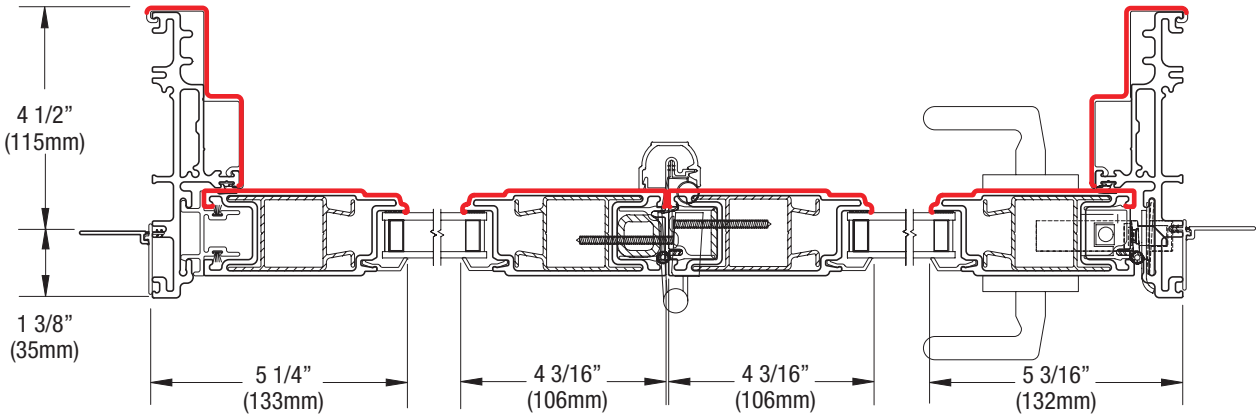
Vertical View



Exterior

Red indicates wood veneer

Horizontal View



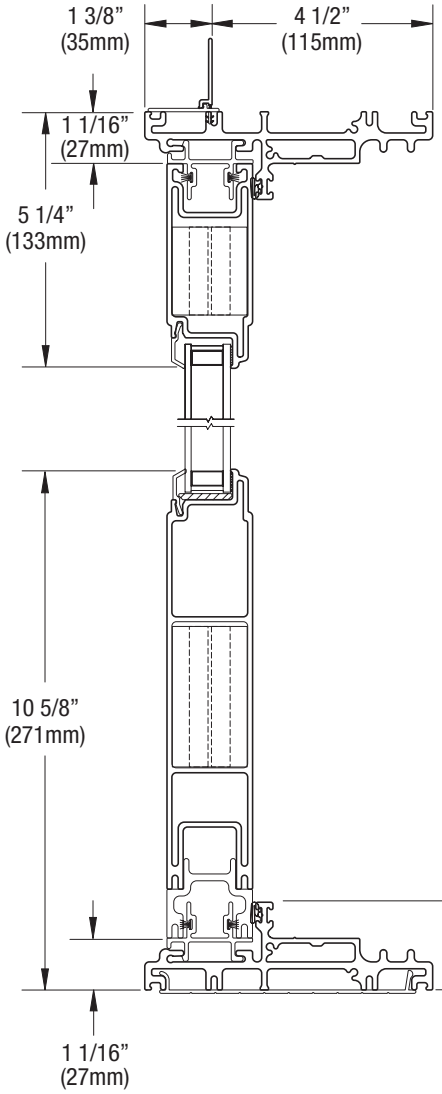
Exterior

Scale: 3" = 1' (1/4 scale)

3623U Ultra French Door 2-Panel (OX) Assembly Drawing

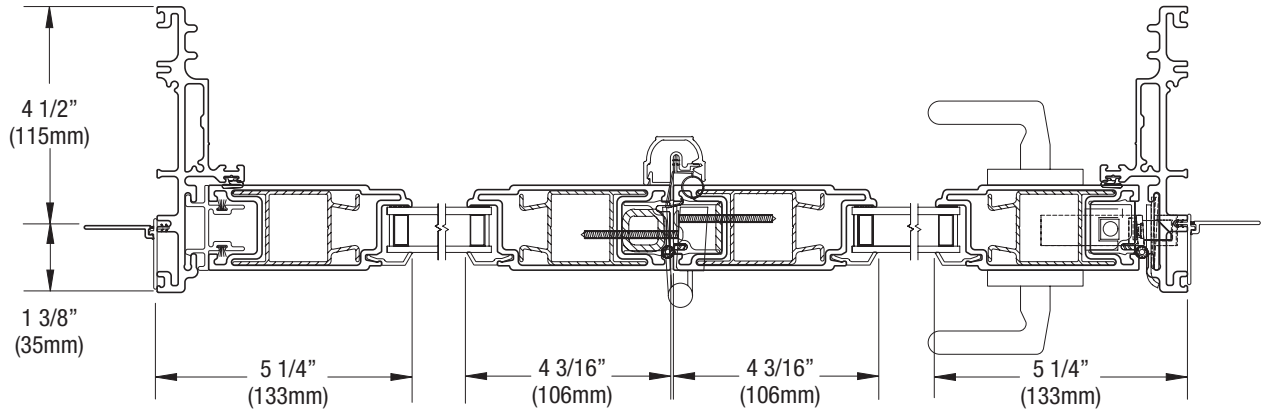
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



Exterior

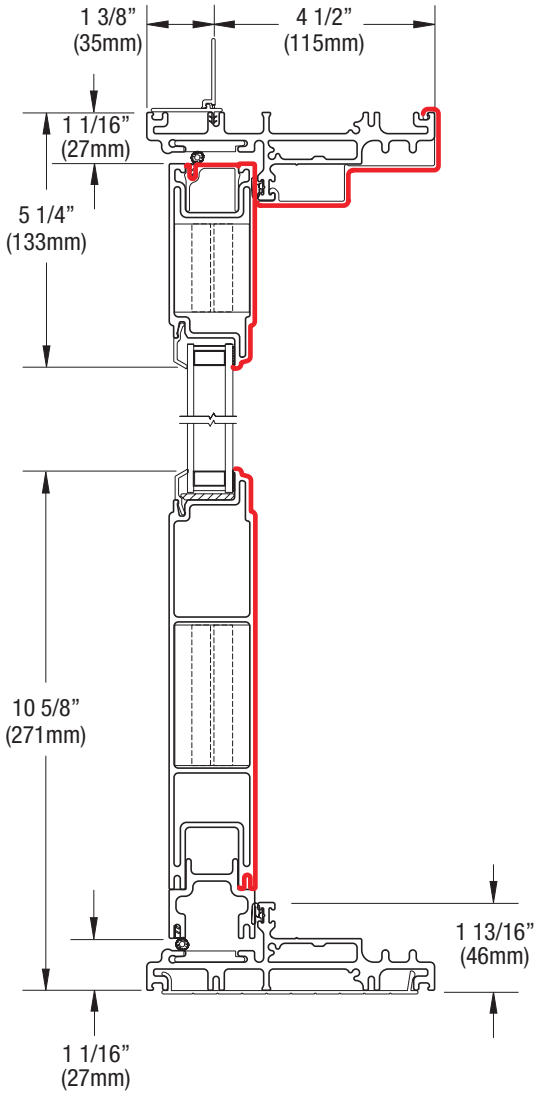
Scale: 3" = 1' (1/4 scale)

3623/3623U-7
FEBRUARY 2009

3623 WoodClad French Door 2-Panel (XX) Assembly Drawing

3000 SERIES FIBERGLASS

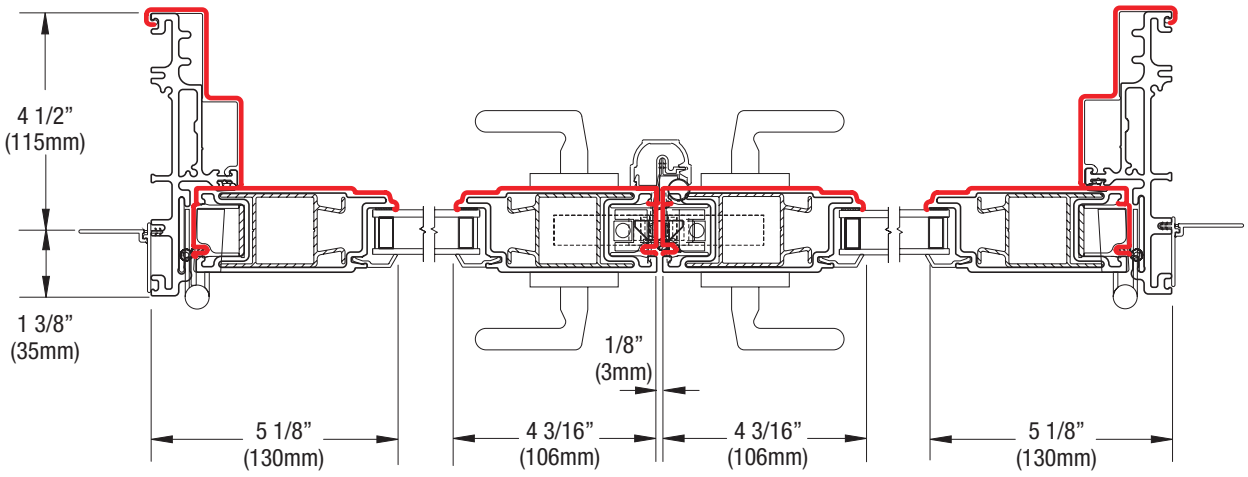
Vertical View



Exterior

Red indicates wood veneer

Horizontal View



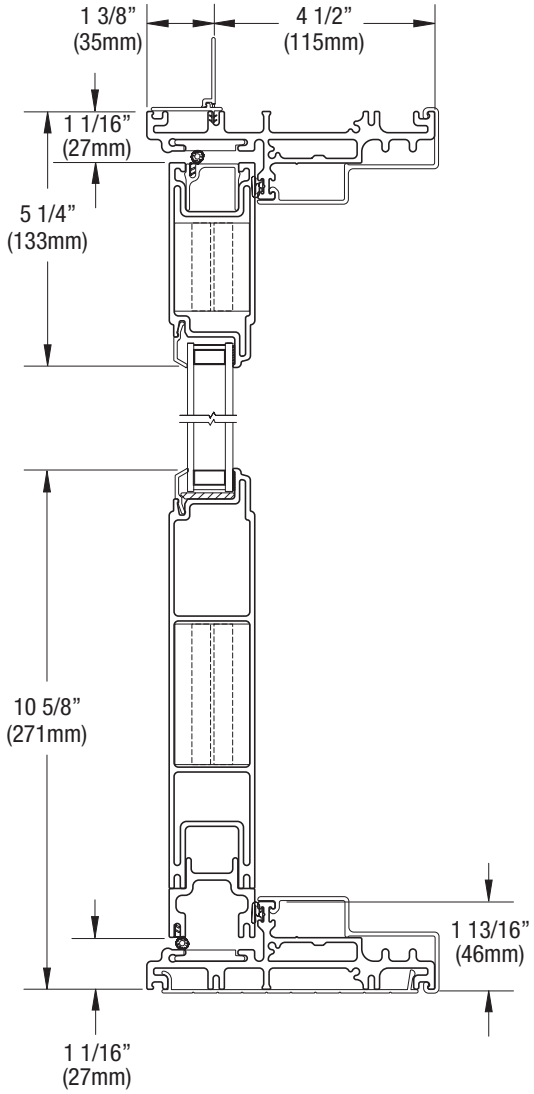
Exterior

Scale: 3" = 1' (1/4 scale)

3623U Ultra French Door 2-Panel (XX) Assembly Drawing

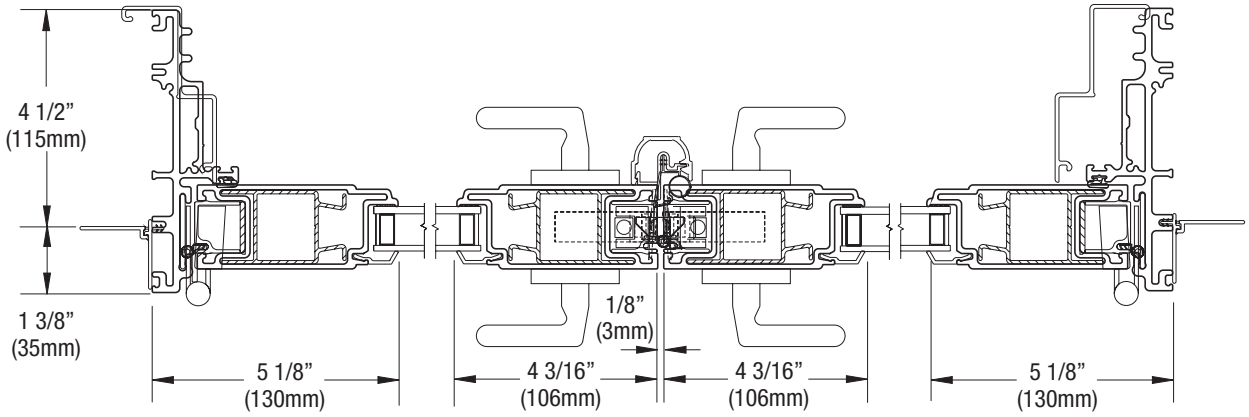
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



Exterior

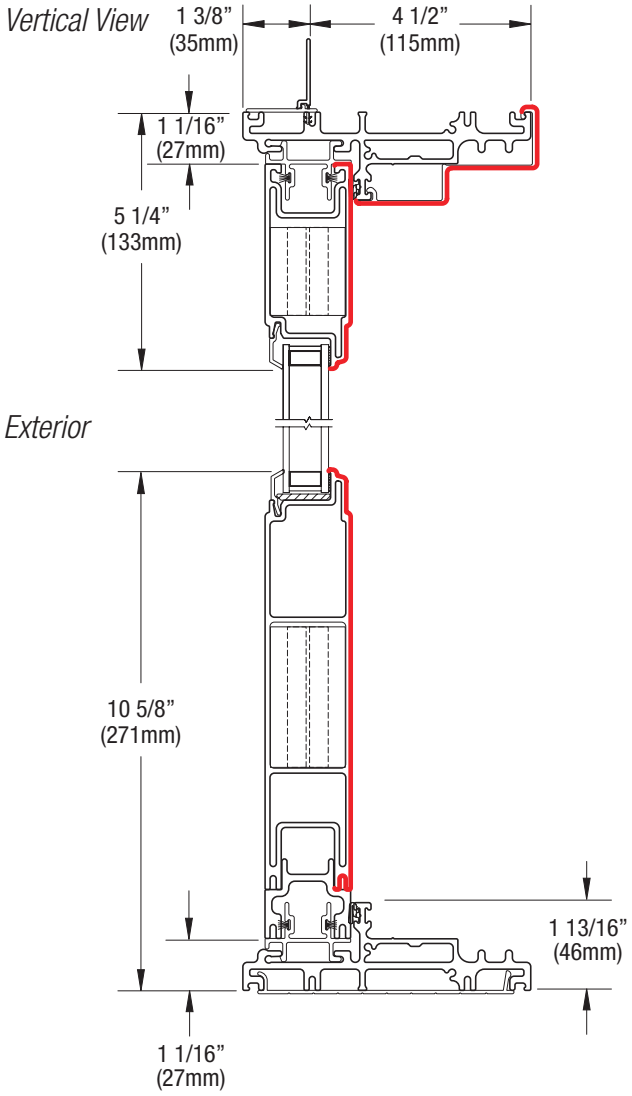
Scale: 3" = 1' (1/4 scale)

3623/3623U-9
FEBRUARY 2009

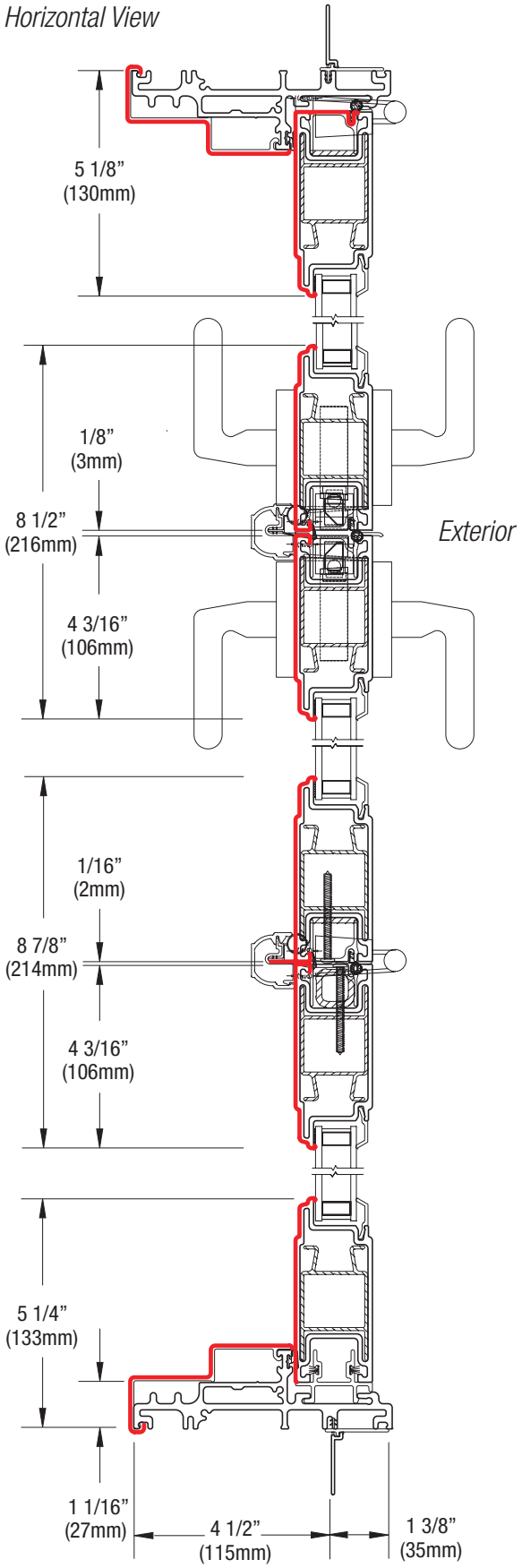
3623 WoodClad French Door 3-Panel (OXX) Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View



Red indicates wood veneer

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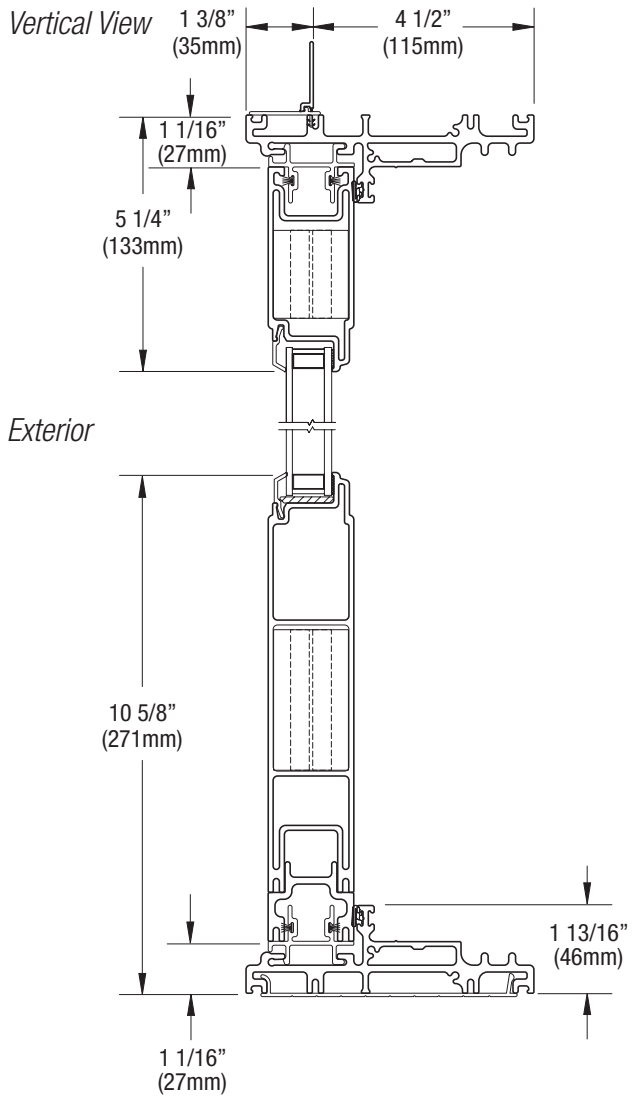
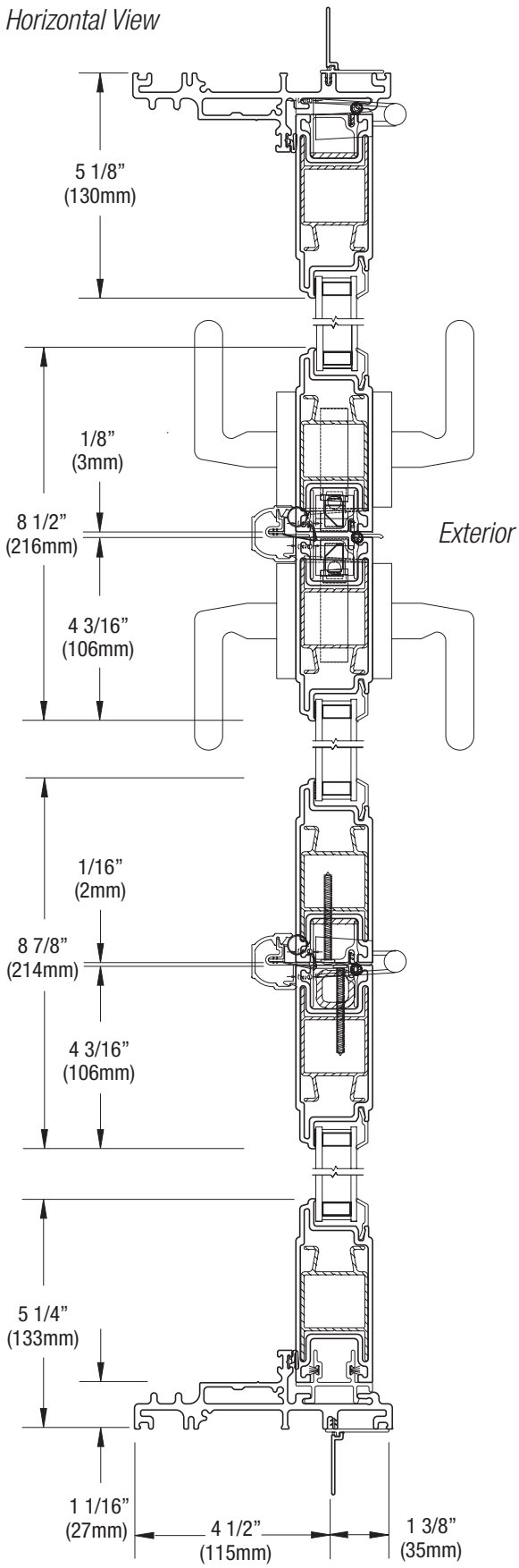
Scale: 3" = 1' (1/4 scale)

3623/3623U-10
FEBRUARY 2009

3623U Ultra French Door 3-Panel (OXX) Assembly Drawing

3000 SERIES FIBERGLASS





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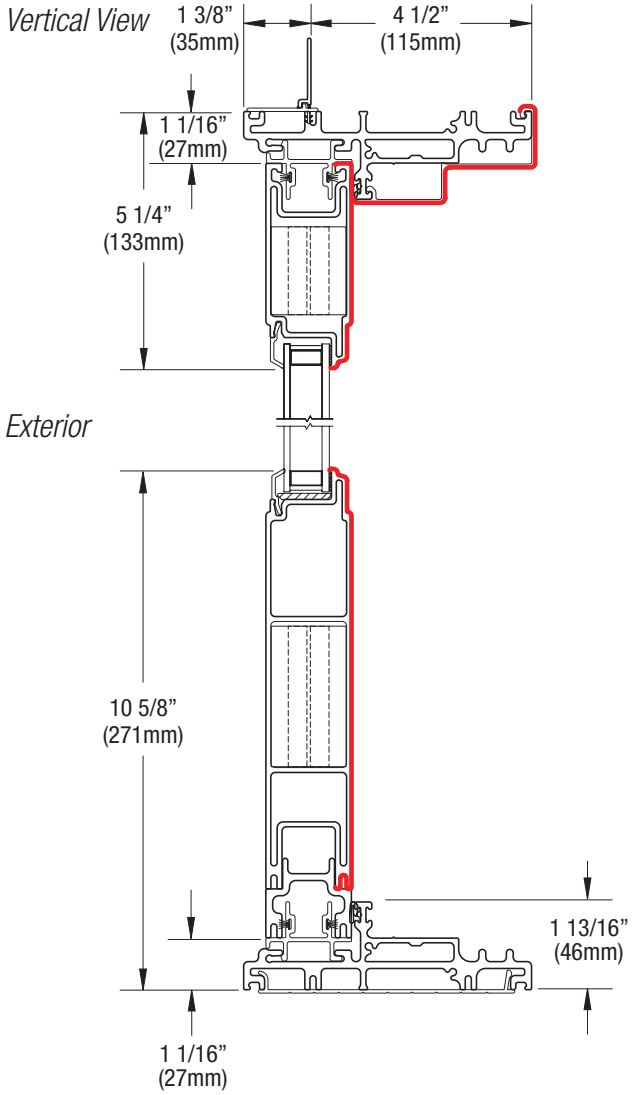
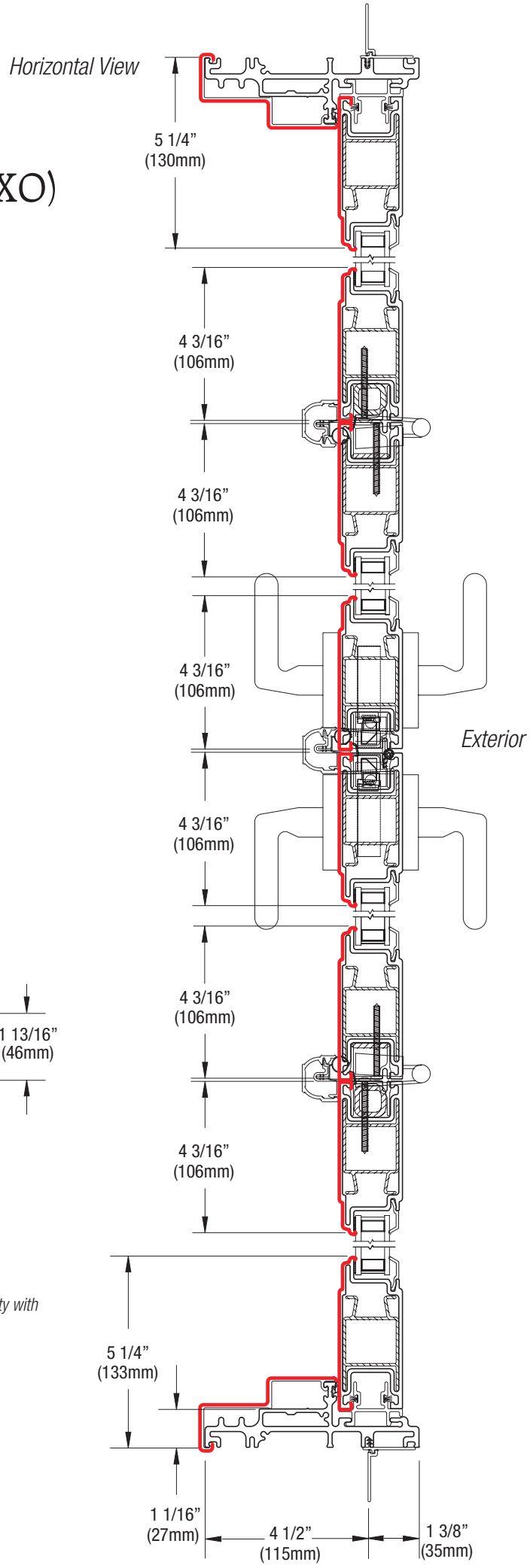
Scale: 3" = 1' (1/4 scale)

3623 WoodClad French Door 4-Panel (OXXO) Assembly Drawing





Red indicates wood veneer

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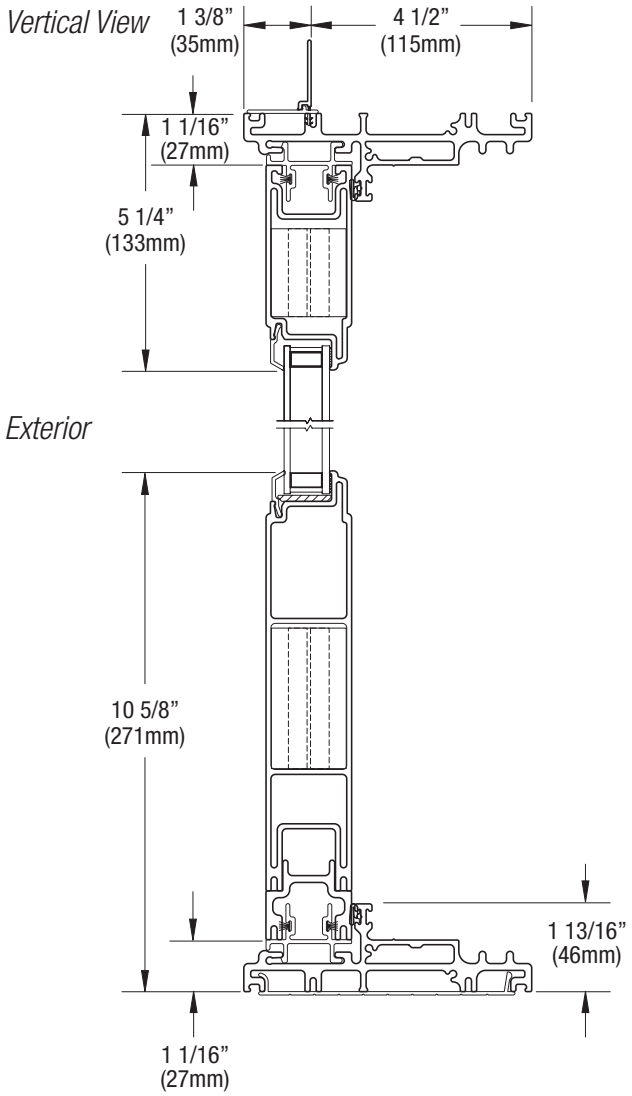
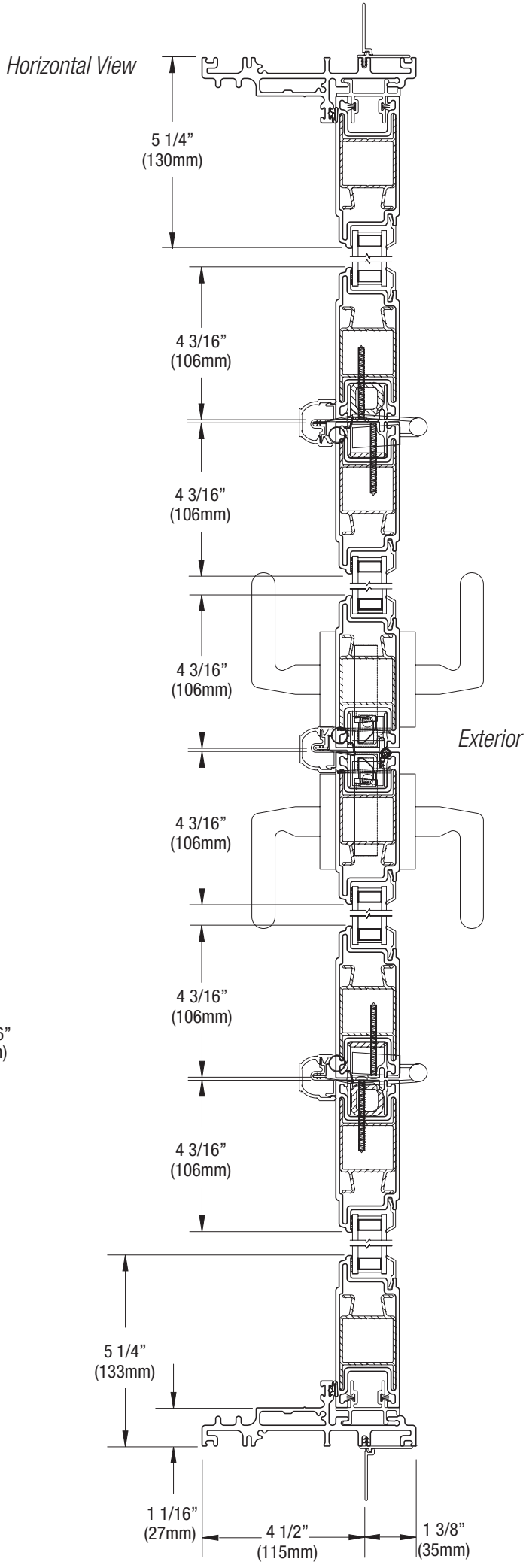
Scale: 3" = 1' (1/4 scale)

3623/3623U-12
FEBRUARY 2009

3623U Ultra French Door 4-Panel (OXXO) Assembly Drawing





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Products shown are not available at all locations – confirm availability with your local Milgard representative.

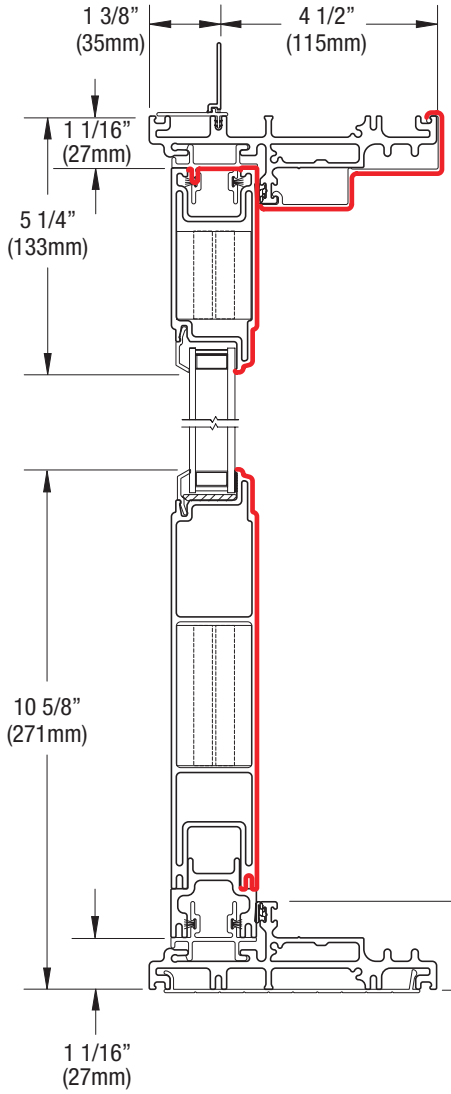
Scale: 3" = 1' (1/4 scale)

3623/3623U-13
FEBRUARY 2009

3623 WoodClad French Door 1-Panel (O) Assembly Drawing

3000 SERIES FIBERGLASS

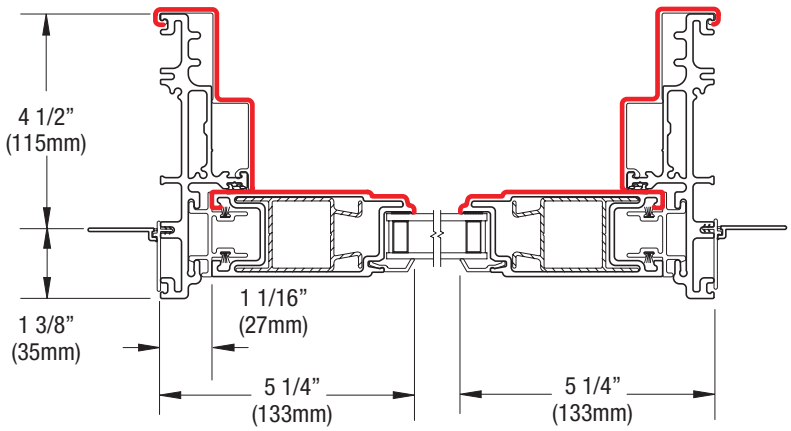
Vertical View



Exterior

Red indicates wood veneer

Horizontal View



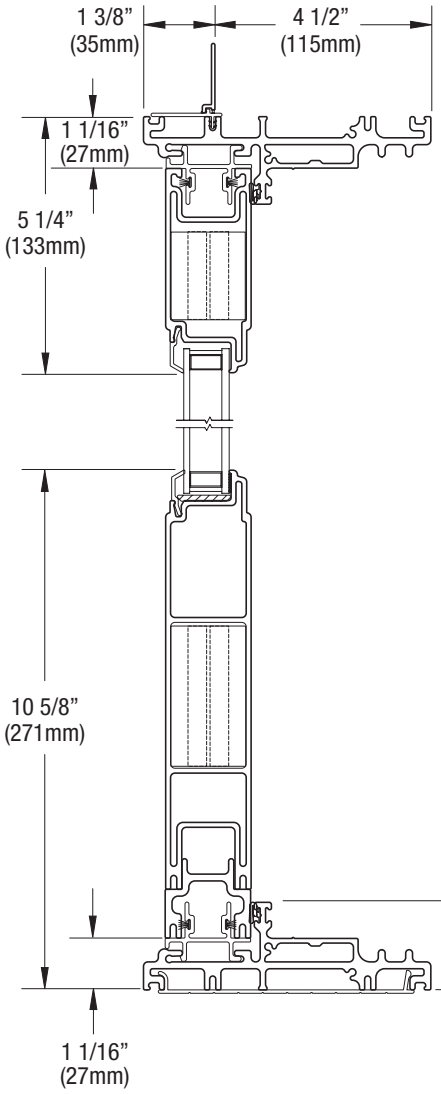
Exterior

Scale: 3" = 1' (1/4 scale)

3623U Ultra French Door 1-Panel (O) Assembly Drawing

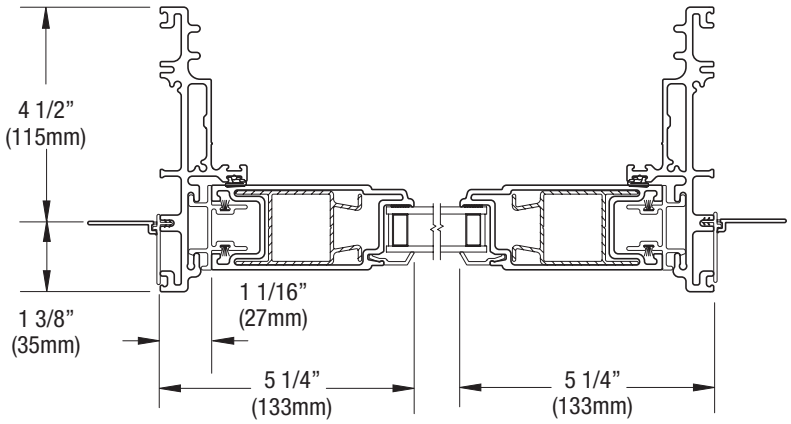
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



Exterior

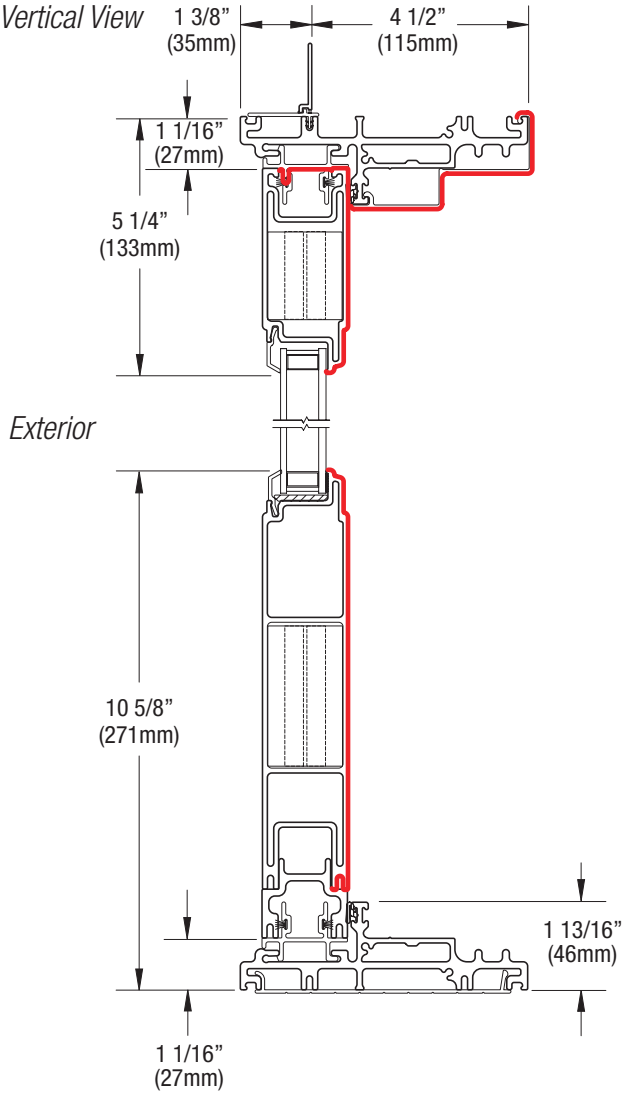
Scale: 3" = 1' (1/4 scale)

3623/3623U-15
FEBRUARY 2009

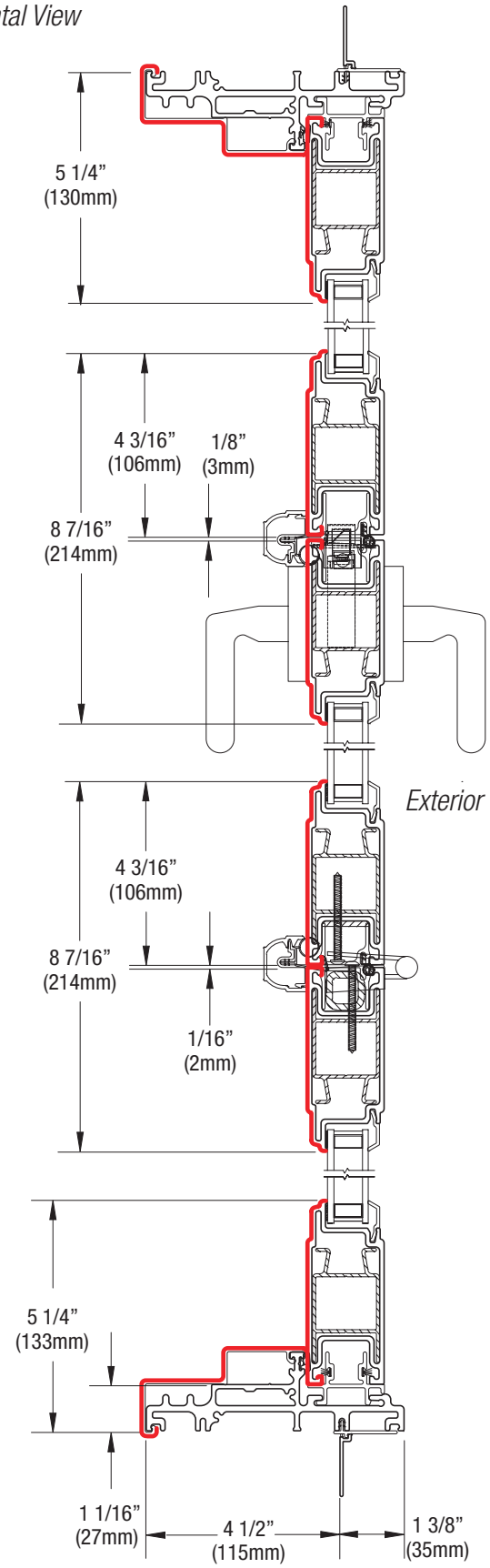
3623 WoodClad French Door 3-Panel (OXO) Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View



Red indicates wood veneer

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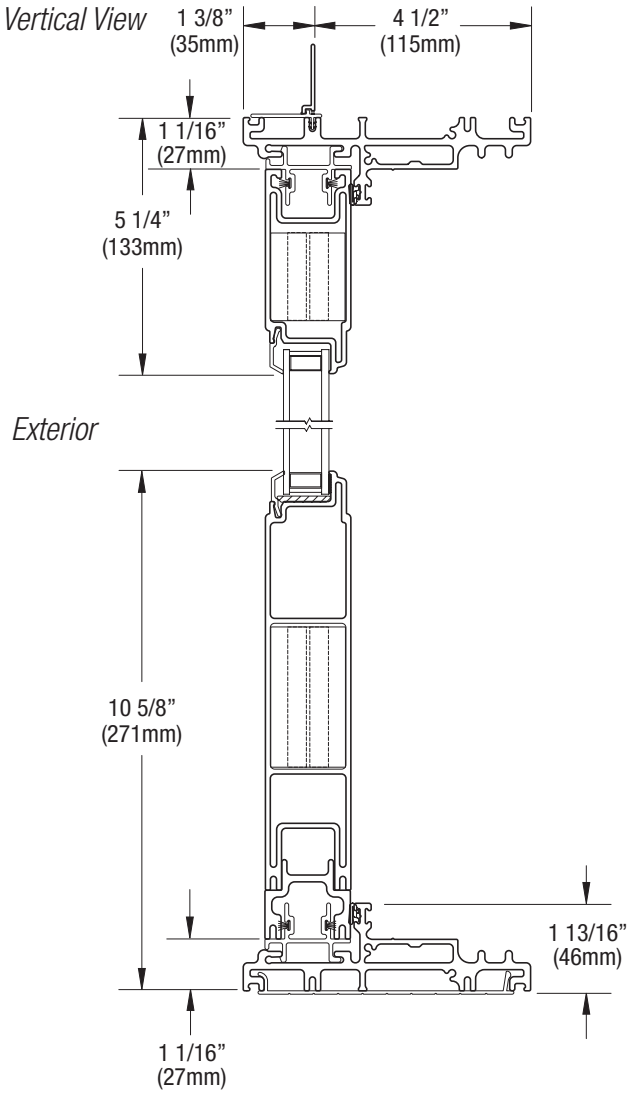
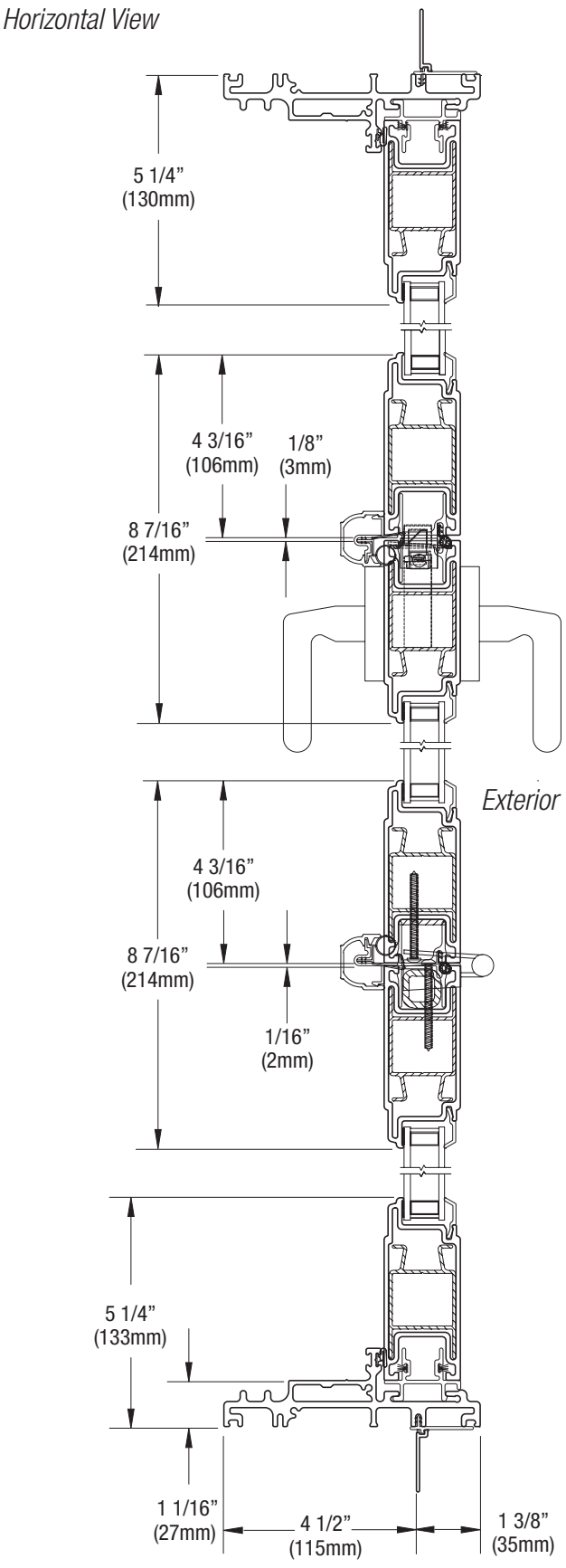
Scale: 3" = 1' (1/4 scale)

3623/3623U-16
FEBRUARY 2009

3623U Ultra French Door 3-Panel (OXO) Assembly Drawing

3000 SERIES FIBERGLASS





Due to continual product research and development, details may be changed at any time. ©2009
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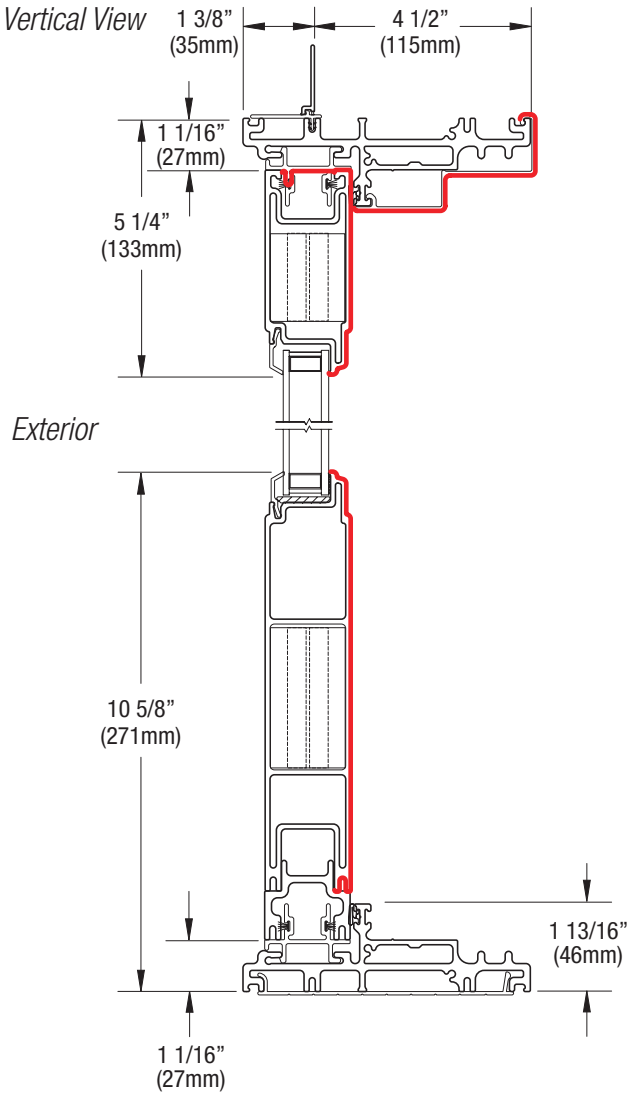
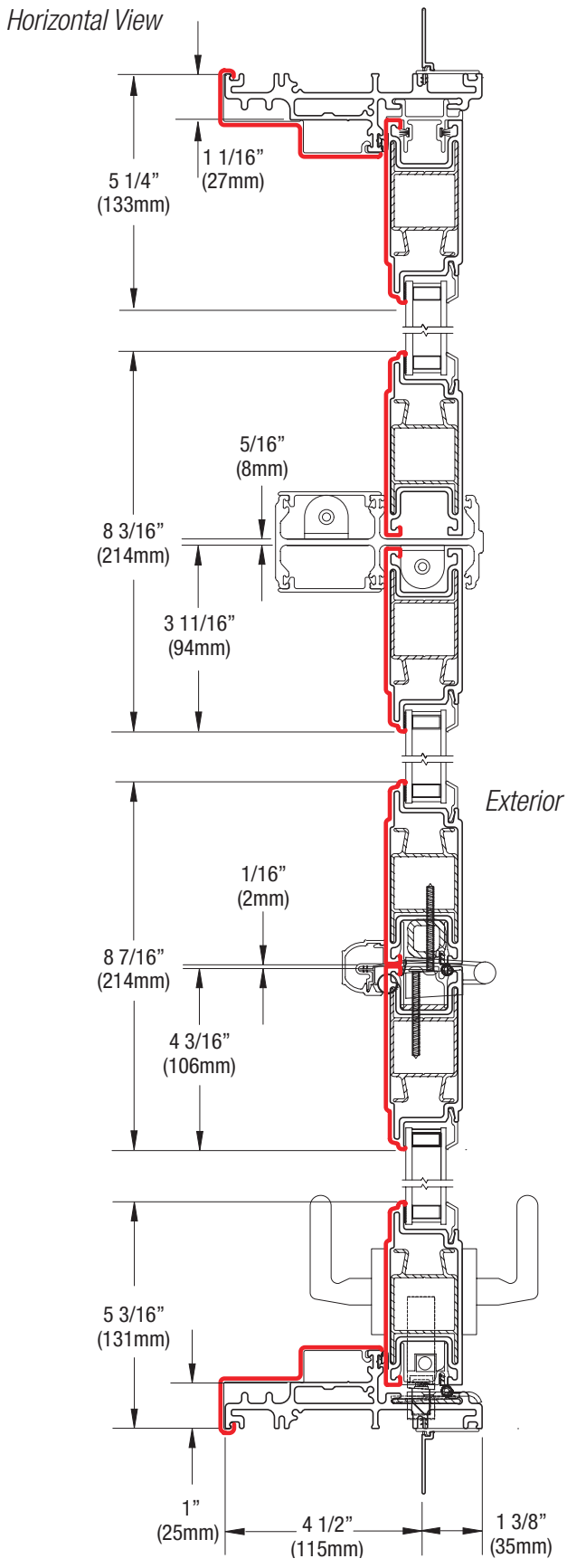
Scale: 3" = 1' (1/4 scale)

3623 WoodClad French Door 3-Panel (XOO) Assembly Drawing

3000 SERIES FIBERGLASS





Red indicates wood veneer

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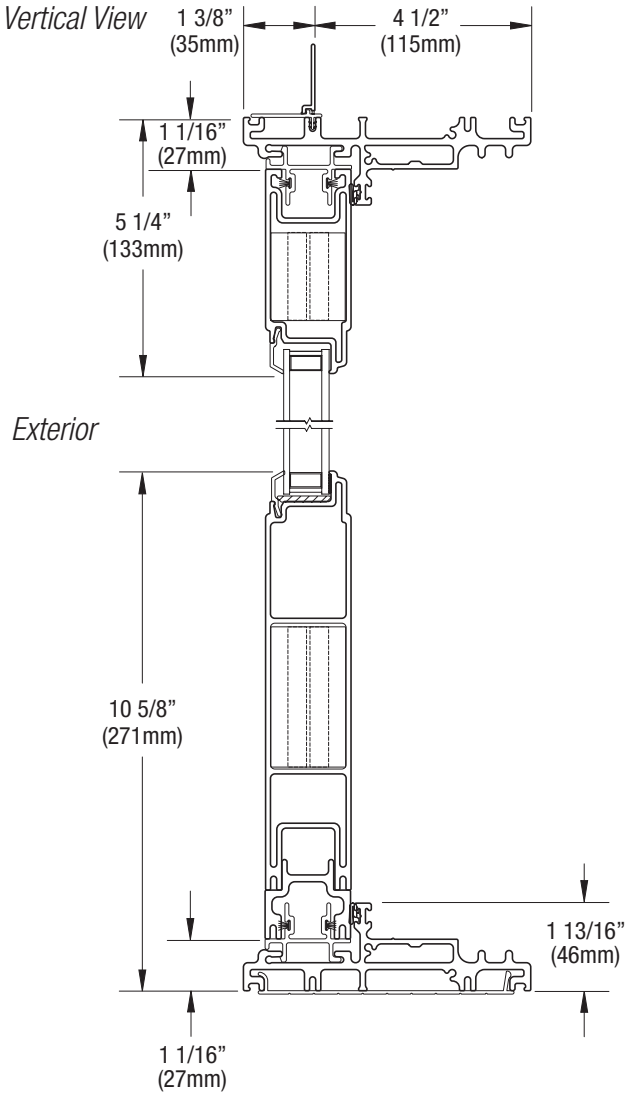
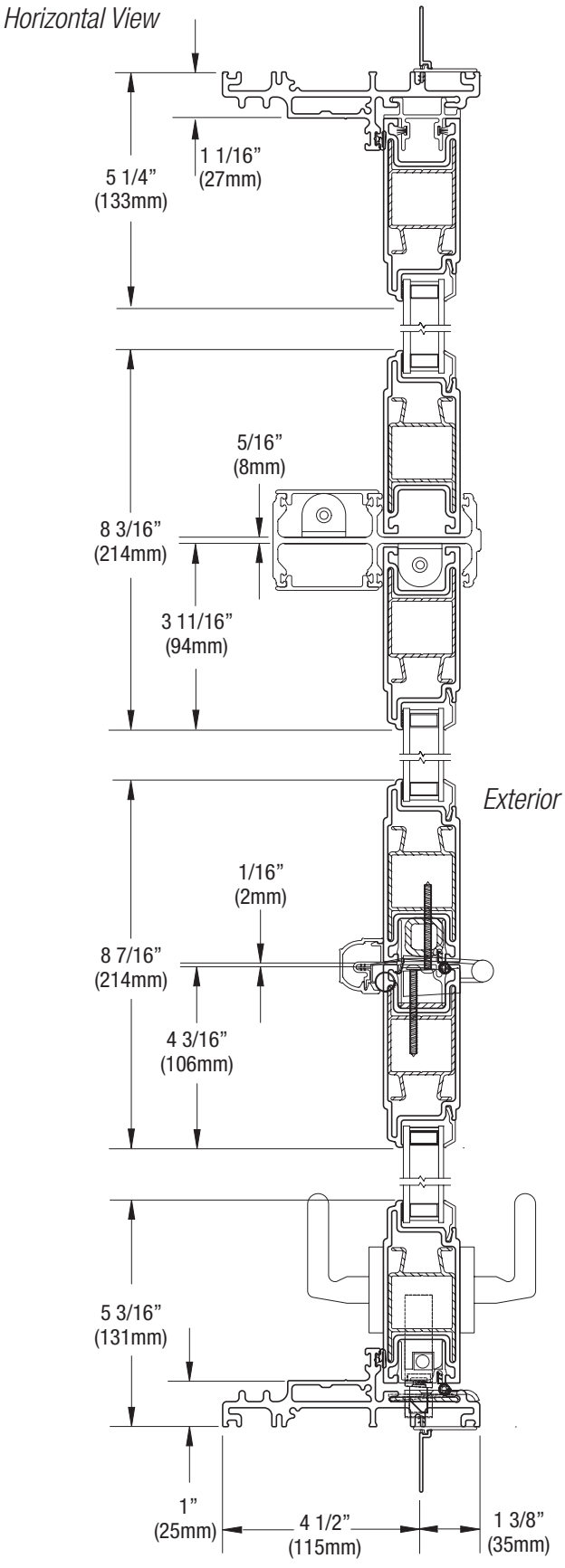
Scale: 3" = 1' (1/4 scale)

3623/3623U-18
FEBRUARY 2009

3623U Ultra French Door 3-Panel (XOO) Assembly Drawing

3000 SERIES FIBERGLASS





Due to continual product research and development, details may be changed at any time. ©2009
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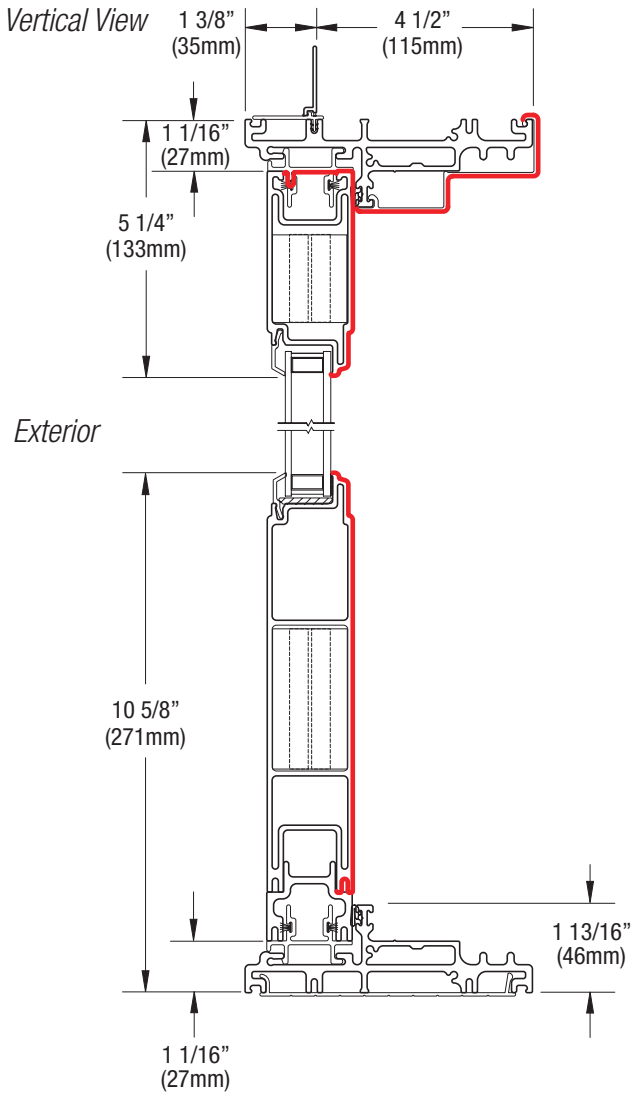
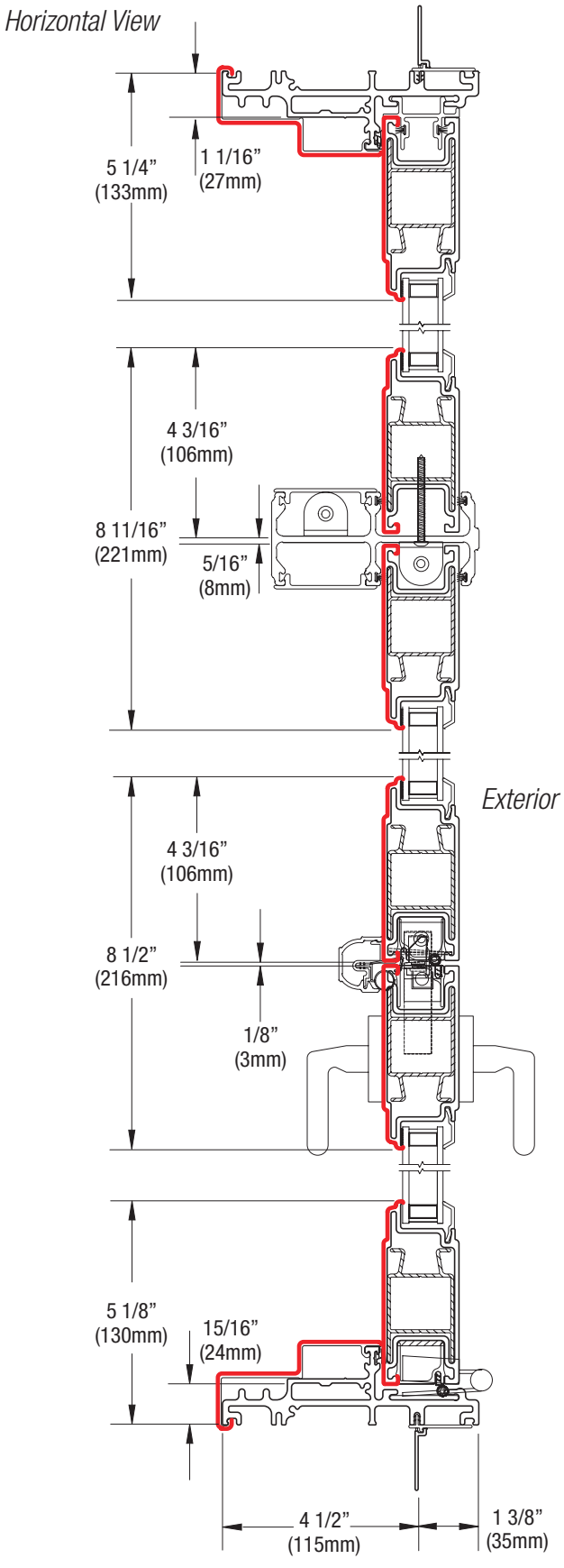
Scale: 3" = 1' (1/4 scale)

3623/3623U-19
FEBRUARY 2009

3623 WoodClad French Door 3-Panel (XOO) Assembly Drawing

3000 SERIES FIBERGLASS





Red indicates wood veneer

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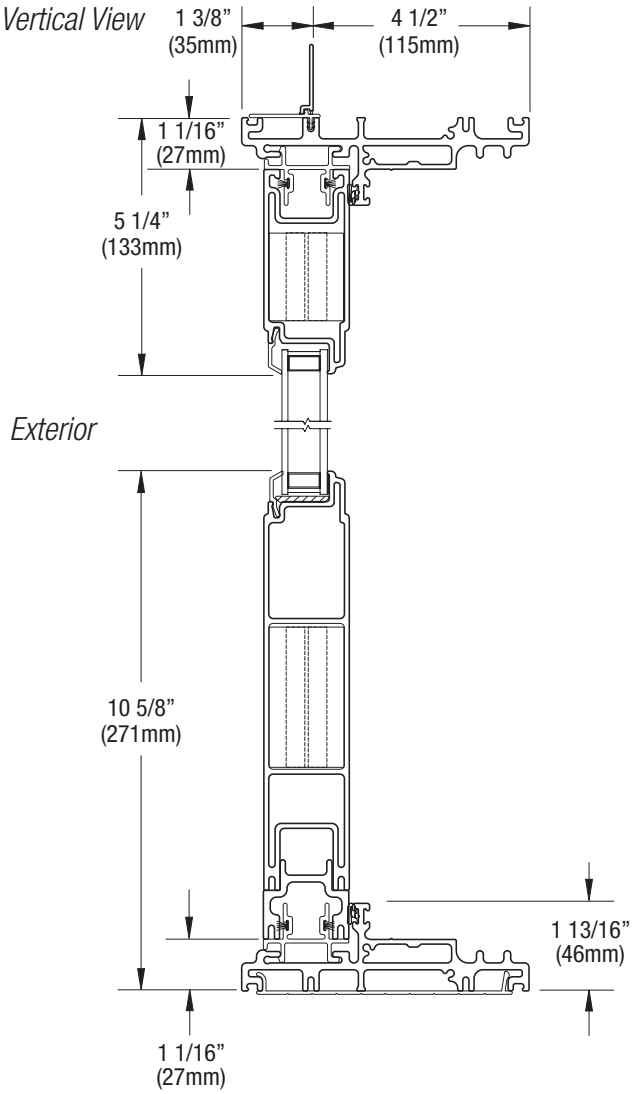
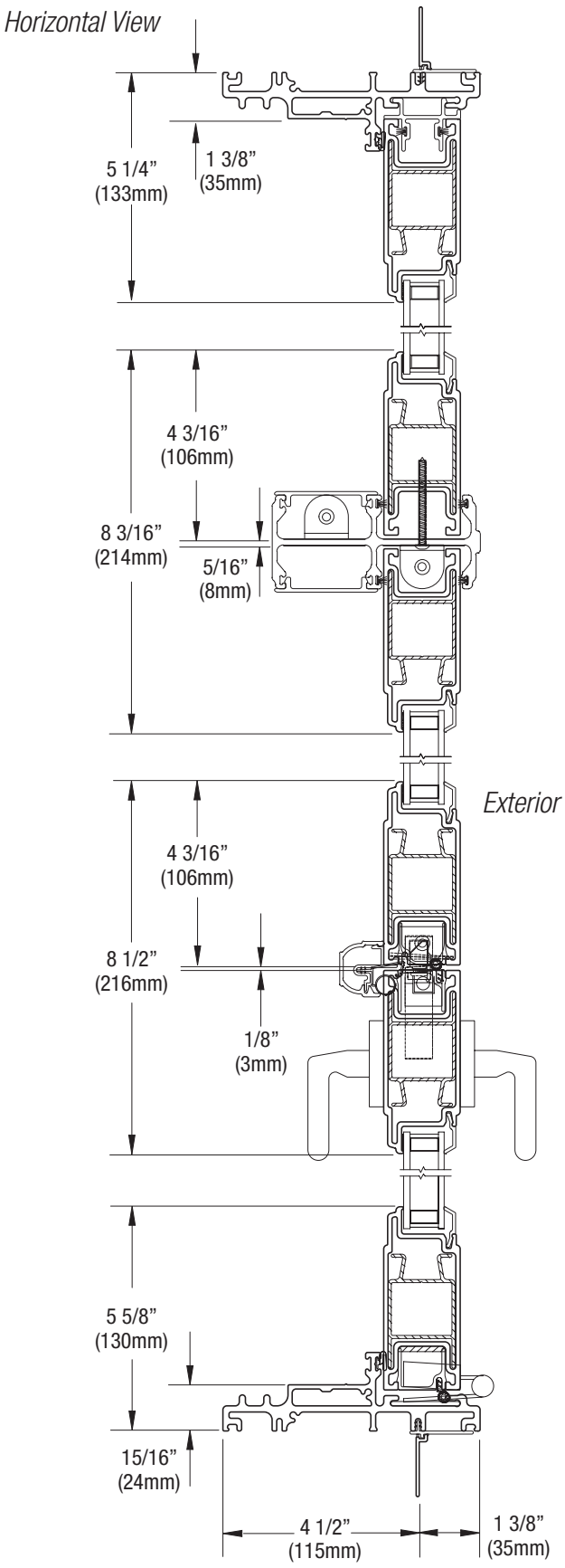
Scale: 3" = 1' (1/4 scale)

3623/3623U-20
FEBRUARY 2009

3623U Ultra French Door 3-Panel (XOO) Assembly Drawing

3000 SERIES FIBERGLASS





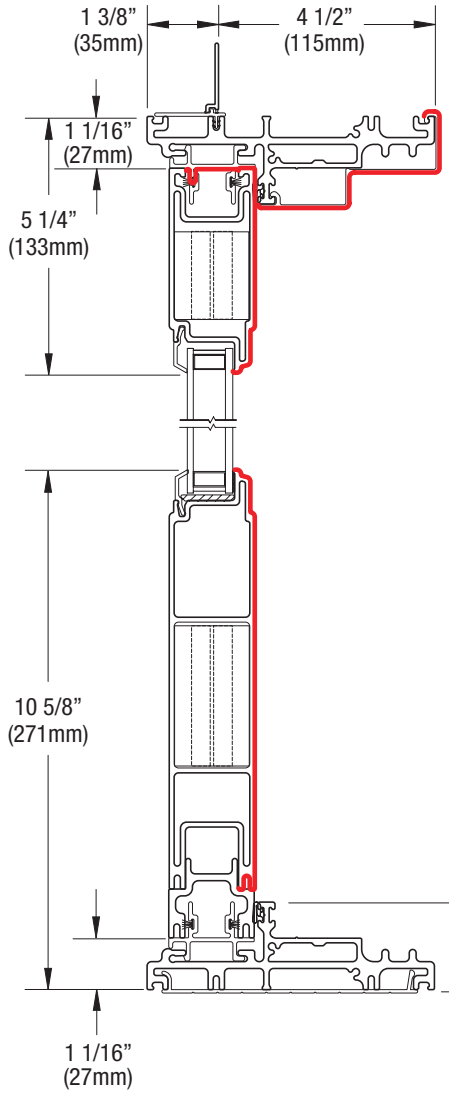
Due to continual product research and development, details may be changed at any time. ©2009
Products shown are not available at all locations – confirm availability with your local Milgard representative.

Scale: 3" = 1' (1/4 scale)

3623/3623U-21
FEBRUARY 2009

3623 WoodClad French Door 2-Panel (OX) Assembly Drawing

3000 SERIES FIBERGLASS

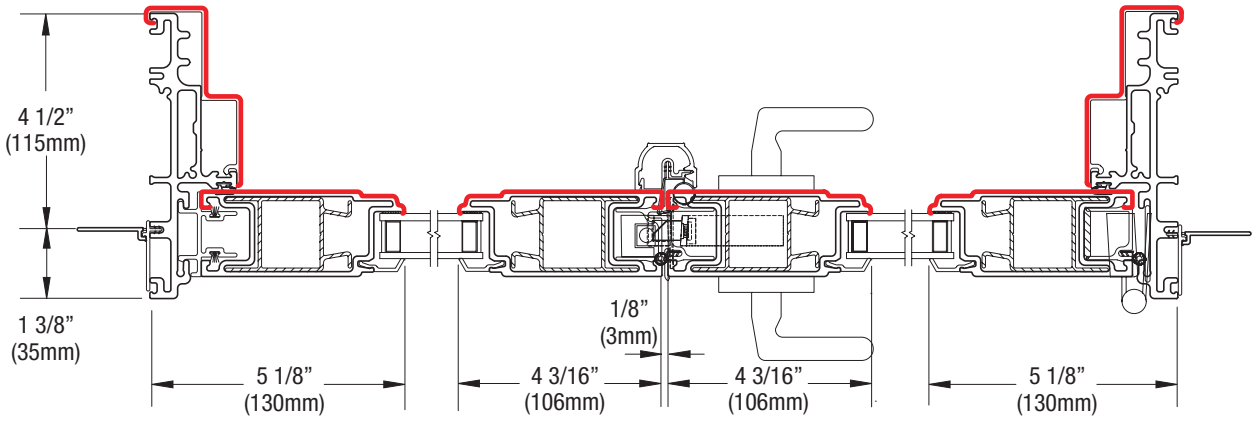


Vertical View

Exterior

Red indicates wood veneer

Horizontal View



Exterior

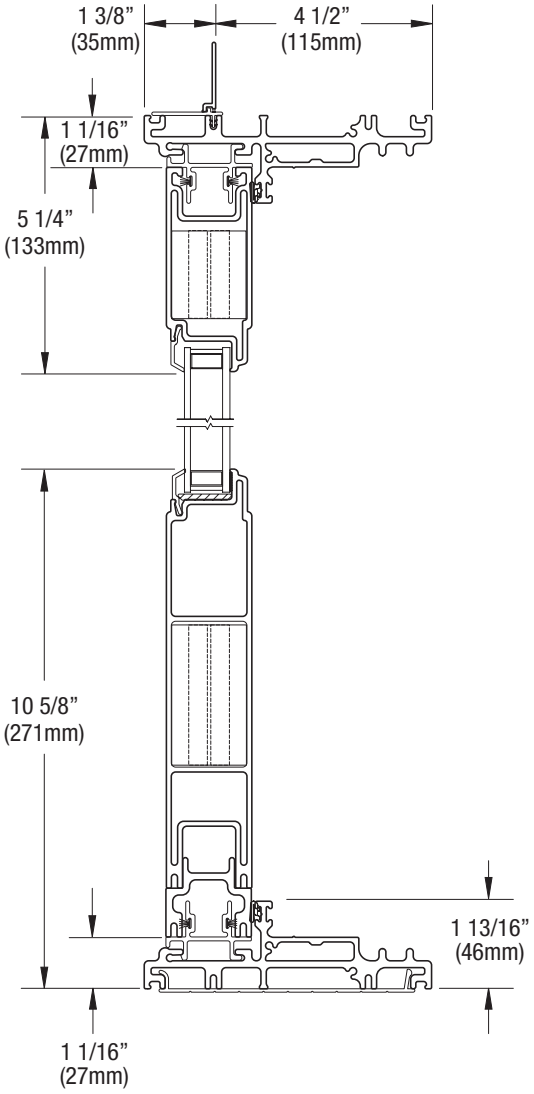
Scale: 3" = 1' (1/4 scale)

3623/3623U-22
FEBRUARY 2009

3623U Ultra French Door 2-Panel (OX) Assembly Drawing

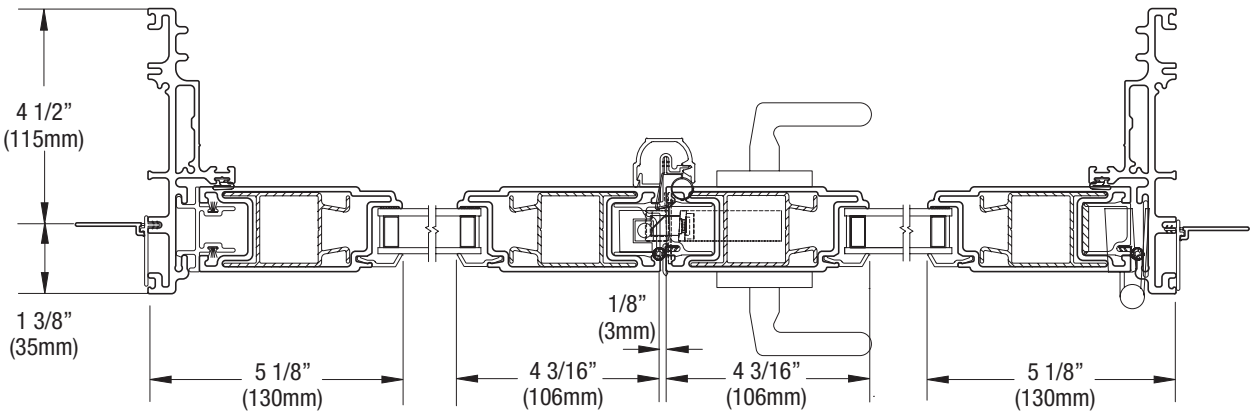
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



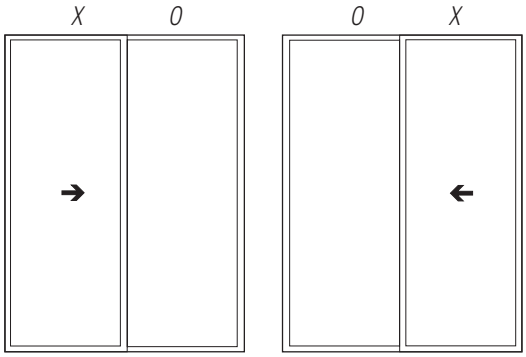
Exterior

Scale: 3" = 1' (1/4 scale)

3623/3623U-23
FEBRUARY 2009

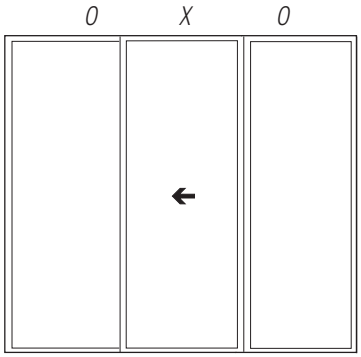
3626 & 3626U Series
Fiberglass Sliding French-Style Doors

3000 SERIES FIBERGLASS

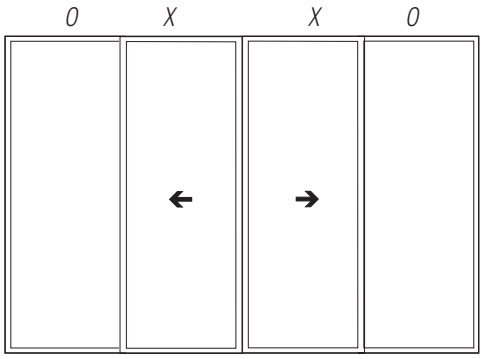


2-panel

2-panel



3-panel



4-panel

RECOMMENDED STANDARD SIZES

rough opening width

height	30"	36"	60"	72"	96"	108"	120"	144"
6'-8"	1	1	2	2	3	3	4	4
6'-10"	1	1	2	2	3	3	4	4
8'-0"	1	1	2	2	3	3	4	4

Number indicates number of panels

WOOD FINISHING – WOODCLAD SERIES

The unfinished wood interior surfaces must be finished and sealed promptly for best results and protection. For maximum protection, finish the interior wood surfaces prior to, or immediately after installation. If the product is to be stored for any length of time before installation, avoid exposure to any moisture conditions. Do not expose the unfinished wood to high heat, high humidity, or excessive construction moisture conditions. Unfinished wood surfaces subject to water damage at the jobsite, or left unfinished before/after installation so that the wood interior surfaces become stained or damaged, will not be considered as “defective in materials or workmanship” under the terms of Milgard’s Warranty. Do not apply any finishes to the weatherstrip.

3626 & 3626U Series
Fiberglass Sliding French-Style Doors

3000 SERIES FIBERGLASS

The 3626 WoodClad Series and 3626U Ultra Series Fiberglass Sliding French-Style Doors blend the energy efficiency and overall aesthetic appeal of wood French patio doors, the floor space saving attributes of a sliding patio door, with the low maintenance and structural integrity of pultruded fiberglass. Both series provide door units sized for common 4-9/16" wall thickness. The 6-9/16" wall thickness is achieved with an added 2" wood jamb extensions attached to heads and jambs. Available in two, three or four panel configurations. Factory mulled transoms are available. Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The windows can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

The 3626 and 3626U Series is designed as a sliding French-style Patio Door in two, three and four-panel configurations. The 3626 and 3626U Series Sliding French-Style Doors are designed to match flawlessly with Milgard Fiberglass Picture Windows for transom configurations.

The 3626 and 3626U Series Doors come fully assembled for easy installation.

COMPONENTS

WOODCLAD FRAME

Milgard's WoodClad Sliding French-Style Door composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

3626 & 3626U Series
Fiberglass Sliding French-Style Doors

3000 SERIES FIBERGLASS

The door panels are 1-3/4" in thickness while jambs are available in standard thicknesses of 4-9/16" or 6-9/16".

The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

Each corner joint and lock mechanism is reinforced with thermally broken structural extruded aluminum. Two nail fin setbacks are offered at 1-3/8" and 1".

In the WoodClad Series, interior reveals feature clear wood veneer. The Ultra Series interior reveals a clean, white painted finish. Other standard interior colors are available.

WOOD JAMB EXTENSIONS
Wood jamb extensions are an optional feature with all fiberglass doors. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL FIN
A 1" wide nailing fin is standard for standard installations, with setback positions offered at 1-3/8" and 1". The fin creates a sturdy flange for securing the door into an opening.

GLAZING MATERIAL
Wet-glazed silicone sealant adheres glass in place, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the exterior edge.

GLASS
Insulating tempered dual glazed glass, 7/8" in overall thickness, is butyl sealed for longevity and energy efficiency. The unit has an ASTM E-774-81 Class A rating. Specialty glass options such as Milgard SunCoat™ Low-E insulating glass, obscures and tints are available upon request.

GRIDS
Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high. A 4'0" x 3'0" single-hung would be four wide x four high because of the intermediate horizontal bar.

WEATHERSTRIPPING
Polypropeline fin seal weatherstripping maintains weather-tight seal around jambs and head.

HARDWARE
The 3626 and 3626U Series comes standard with a dual-point, solid cast, polished brass lockset and deadbolt with keyed exterior (Schlage®-compatible).

SILL
Bronze-colored pultruded fiberglass with sputter-coat, non-skid textured finish.

SCREEN
A heavy-duty, extruded aluminum screen, color-matched to door, rolls on raised monorail track in head and sill – heavy duty, adjustable dual-roller housing places two in the head and two in the sill. An optional retractable screen unit is available, housed in an extruded aluminum canister unit. Canister unit colors are available in white, tan, brownstone and matte black. Screen mesh used is charcoal-colored fiberglass mesh.

TRANSOMS
Arch and rectangular transoms are available mulled to the door unit.

SIZING
All doors are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Doors will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES
Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

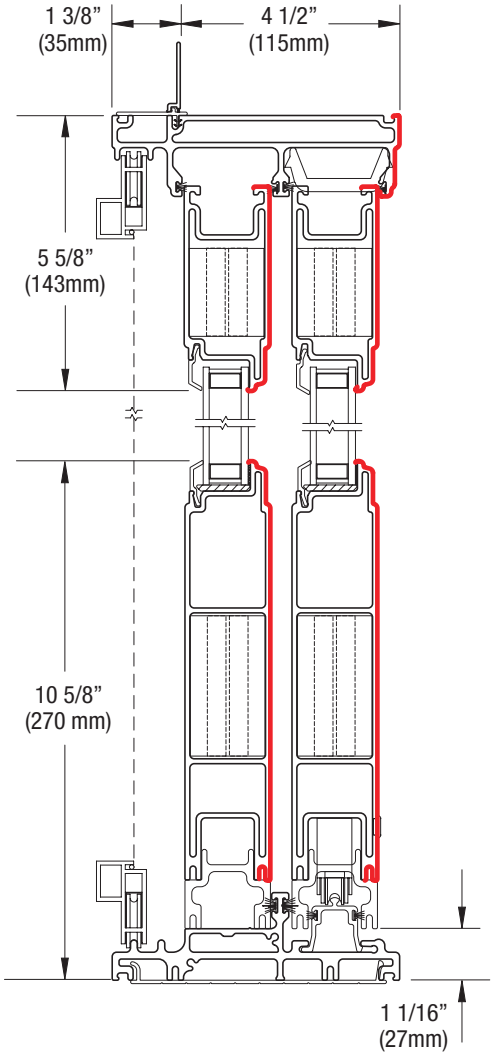
Note:
- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

BRICKMOULD
A 2" wide x 1-1/2" thick factory-primed wood brickmould trim is an available option for a finished exterior appearance.

3626 WoodClad Sliding French Door 2-Panel Assembly Drawing

3000 SERIES FIBERGLASS

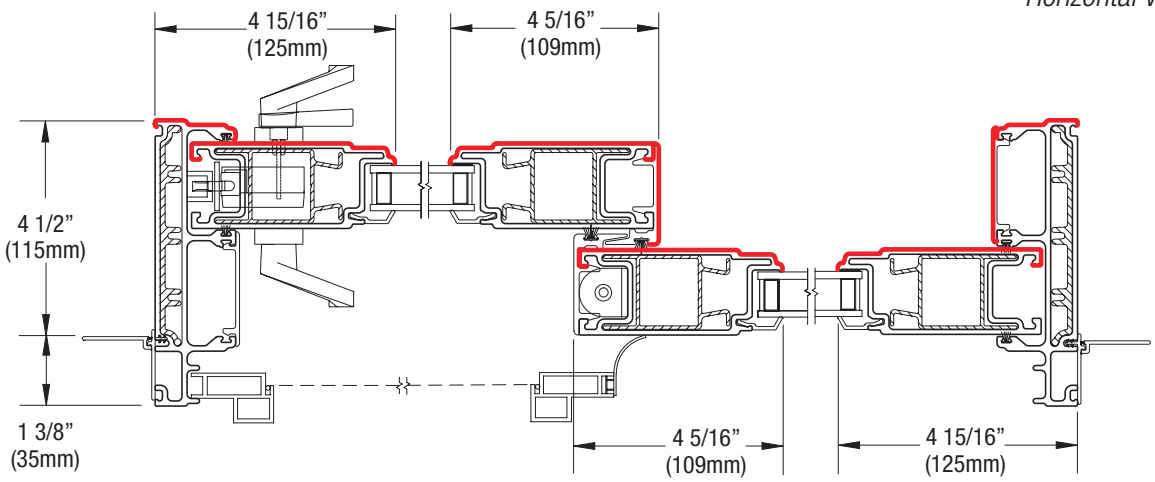
Vertical View



Exterior

Red indicates wood veneer

Horizontal View



Scale: 3" = 1' (1/4 scale)

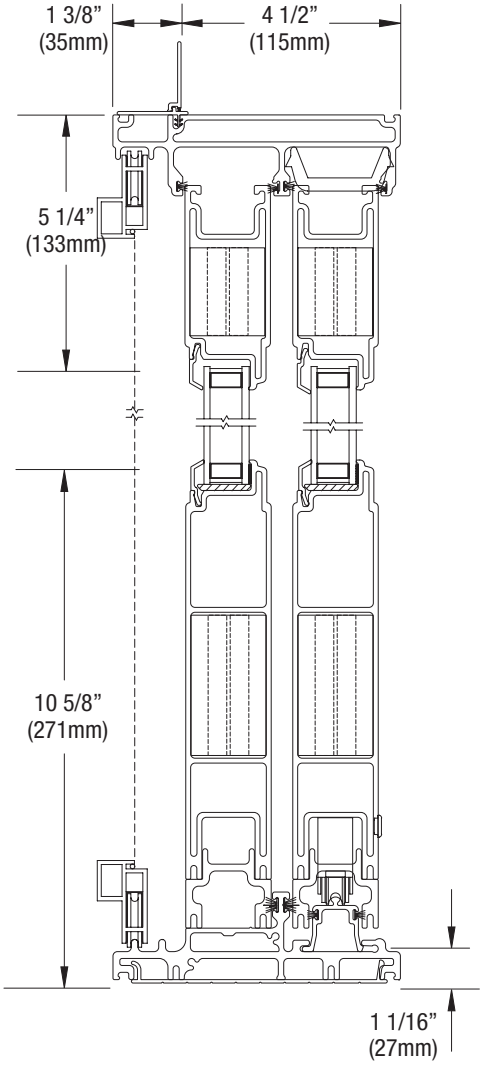
Exterior

3626/3626U-4
FEBRUARY 2009

3626U Ultra French Sliding Door 2-Panel Assembly Drawing

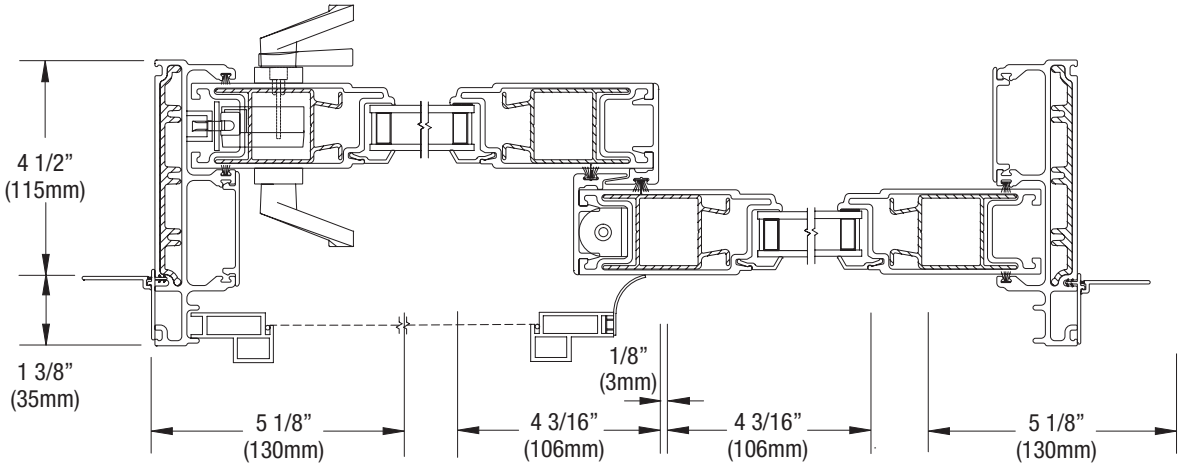
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



Exterior

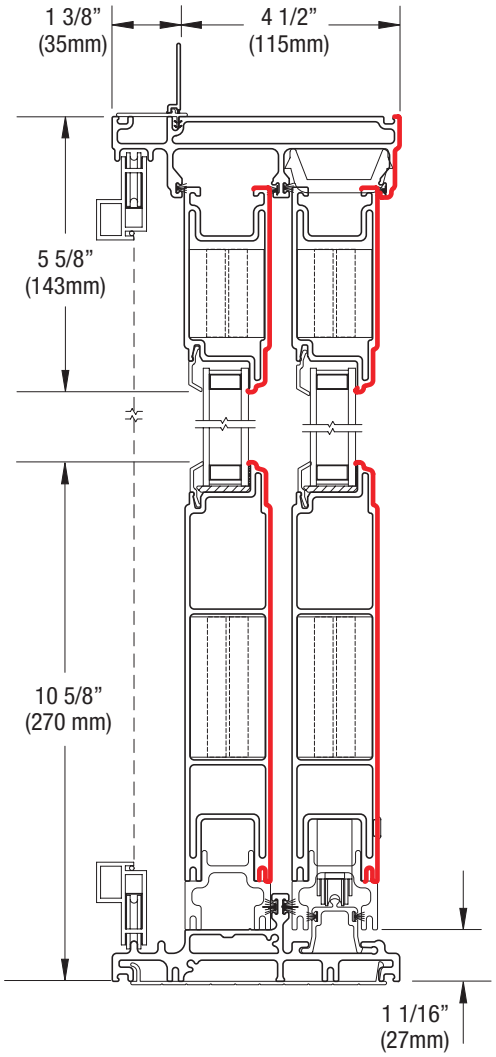
Scale: 3" = 1' (1/4 scale)

3626/3626U-5
FEBRUARY 2009

3626 WoodClad Sliding French Door 3-Panel Assembly Drawing

3000 SERIES FIBERGLASS

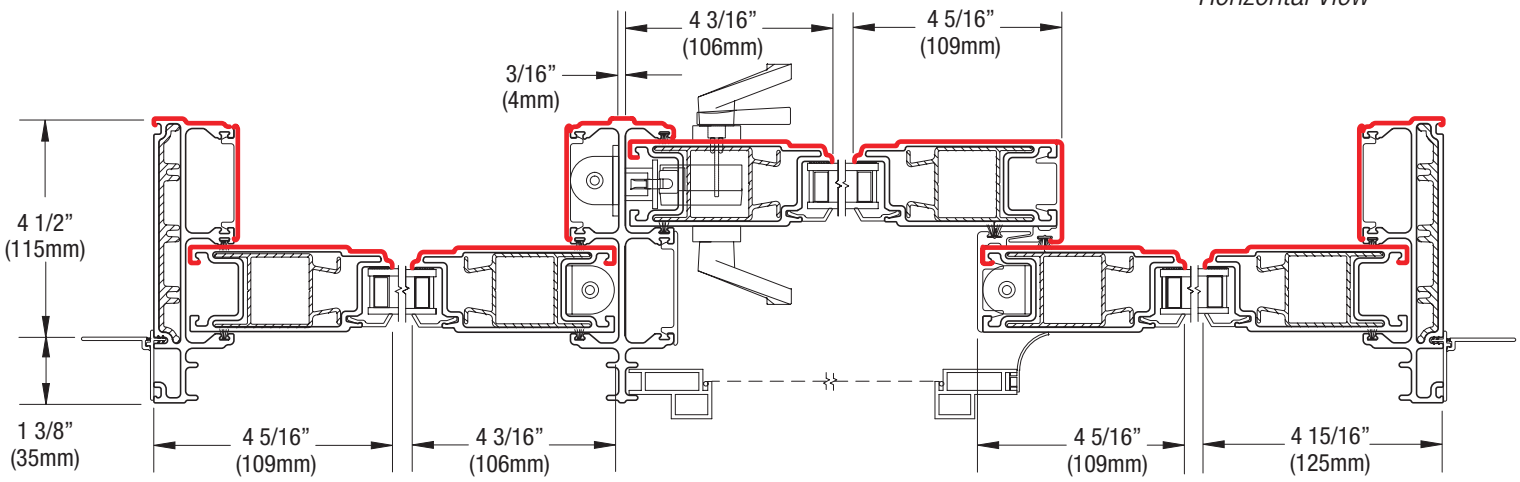
Vertical View



Exterior

Red indicates wood veneer

Horizontal View



Scale: 3" = 1' (1/4 scale)

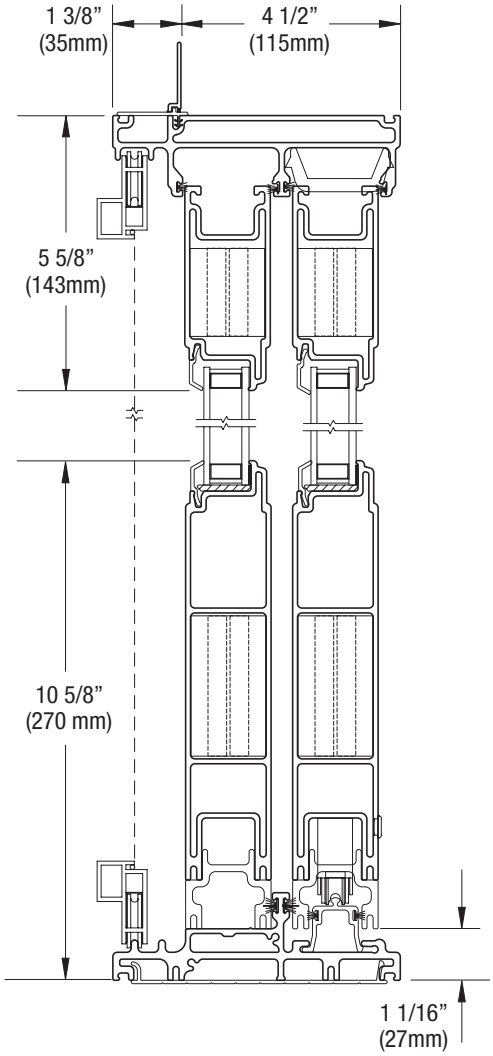
Exterior

3626/3626U-6
FEBRUARY 2009

3626U Ultra Sliding French Door 3-Panel Assembly Drawing

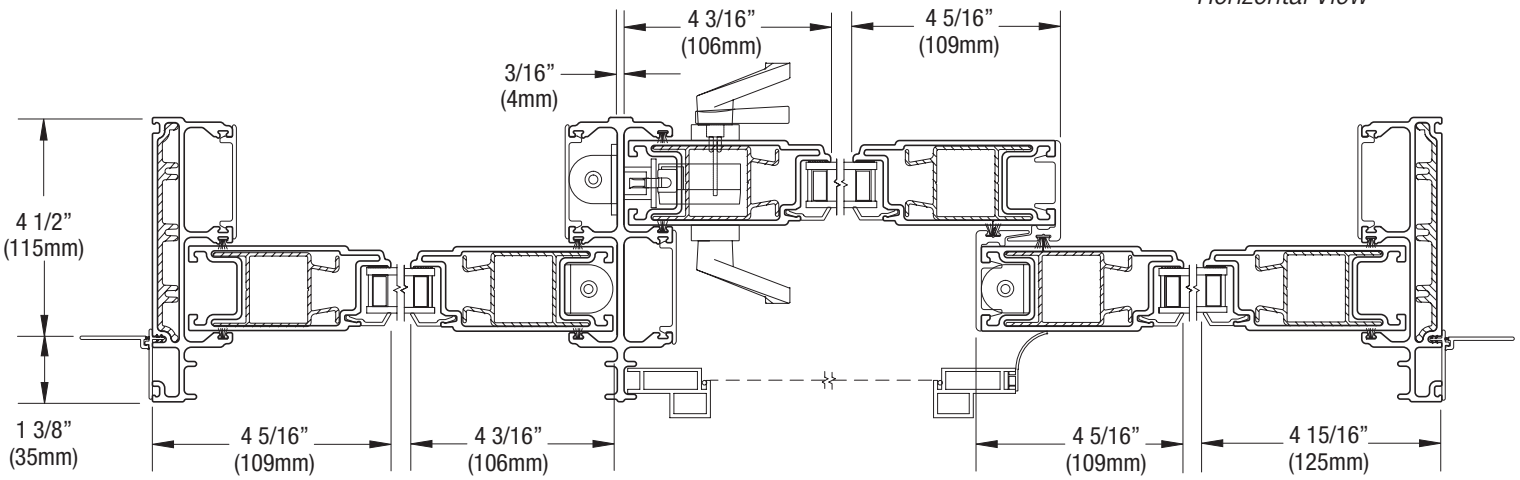
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



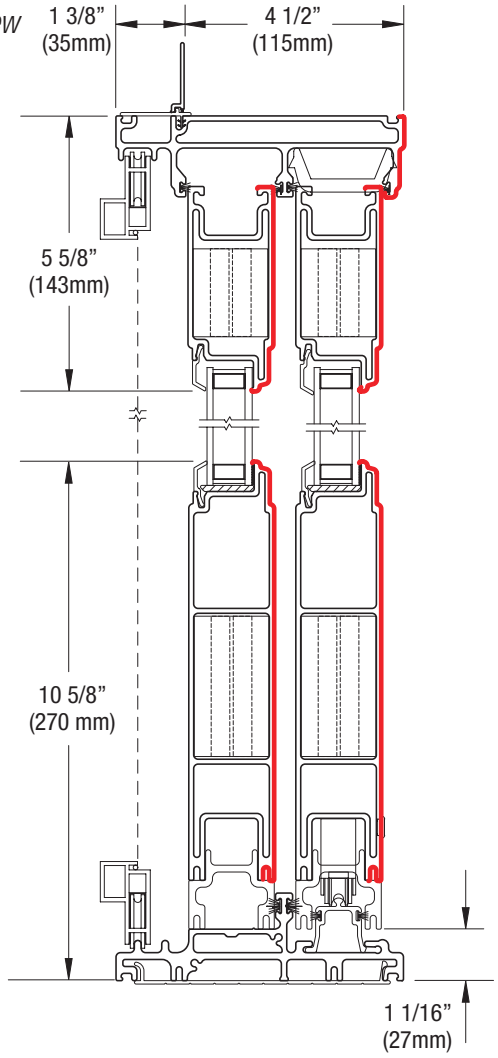
Exterior

Scale: 3" = 1' (1/4 scale)

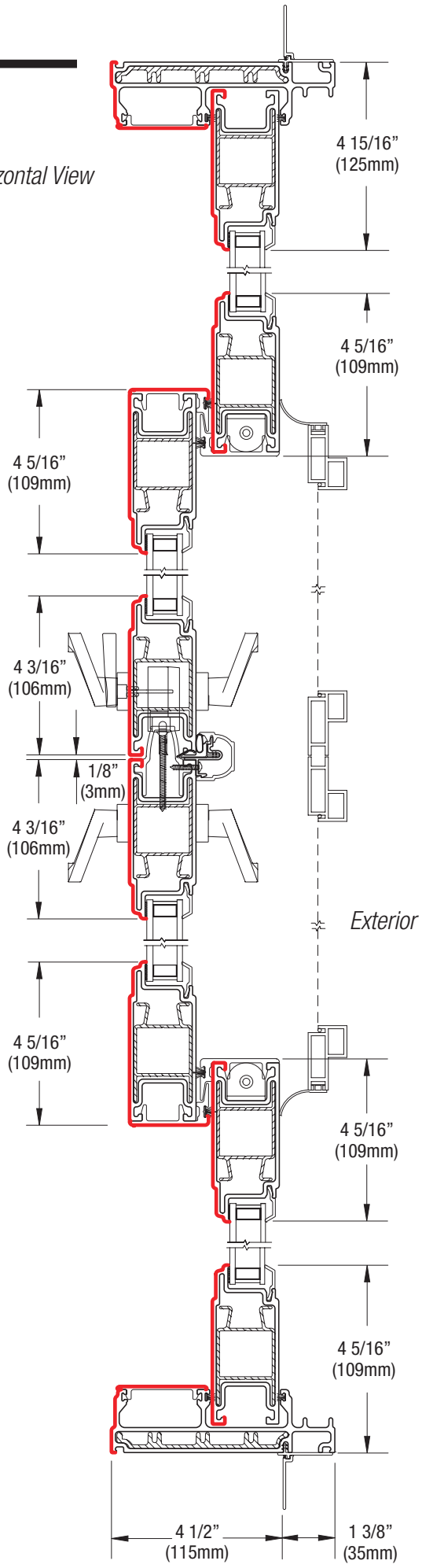
3626/3626U-7
FEBRUARY 2009

3626 WoodClad Sliding French Door 4-Panel Assembly Drawing

Vertical View



Horizontal View



Red indicates wood veneer

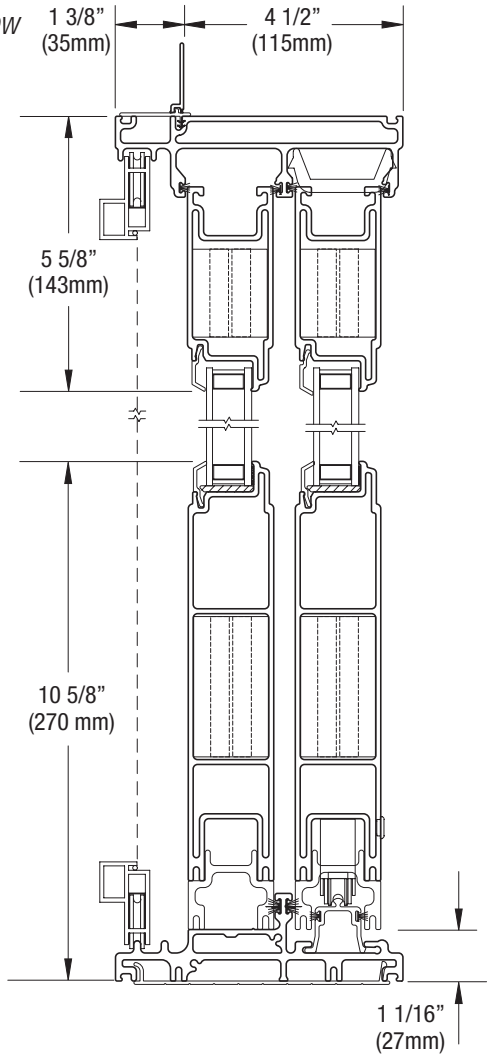
Due to continual product research and development, details may be changed at any time. ©2009
Products shown are not available at all locations – confirm availability with your local Milgard representative.

Scale: 3" = 1' (1/4 scale)

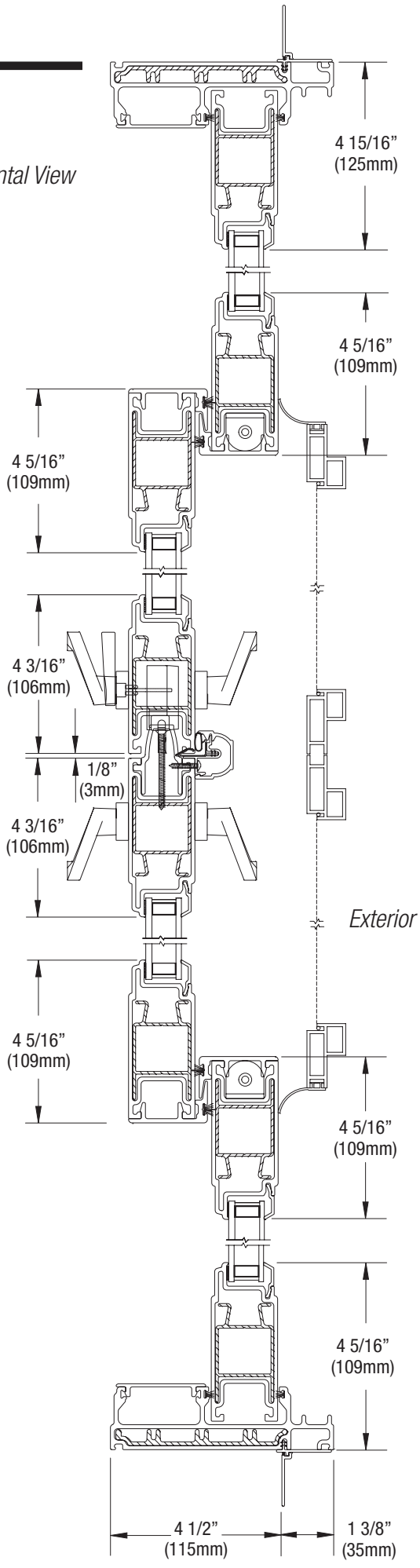
3626/3626U-8
FEBRUARY 2009

3626U Ultra Sliding French Door 4-Panel Assembly Drawing

Vertical View



Horizontal View



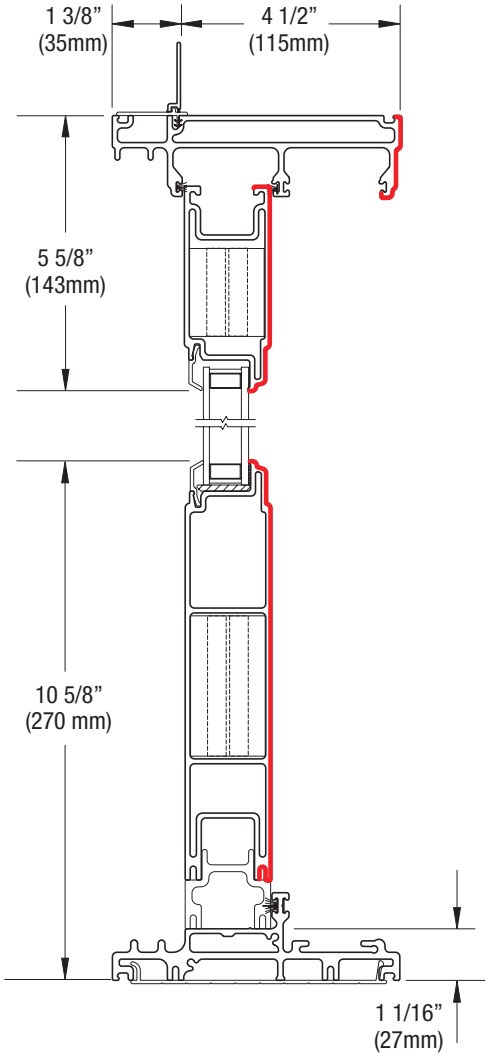
Due to continual product research and development, details may be changed at any time. ©2009
Products shown are not available at all locations – confirm availability with your local Milgard representative.

Scale: 3" = 1' (1/4 scale)

3626/3626U-9
FEBRUARY 2009

3626 WoodClad Sliding French Door Fixed-Panel Assembly Drawing

3000 SERIES FIBERGLASS

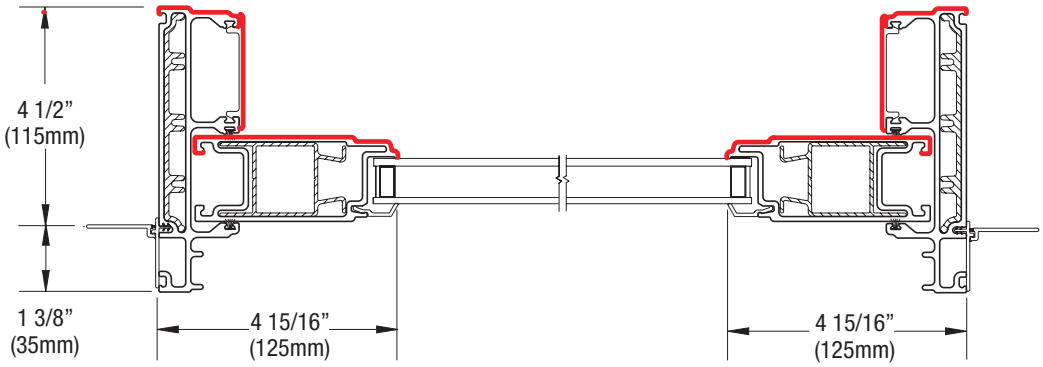


Vertical View

Exterior

Red indicates wood veneer

Horizontal View



Exterior

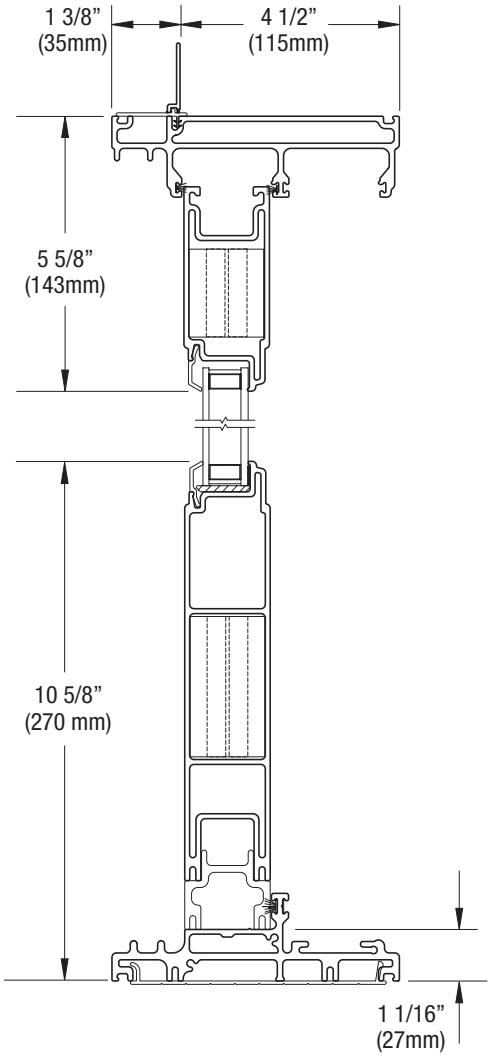
Scale: 3" = 1' (1/4 scale)

3626/3626U-10
FEBRUARY 2009

3626U Ultra Sliding French Door Fixed-Panel Assembly Drawing

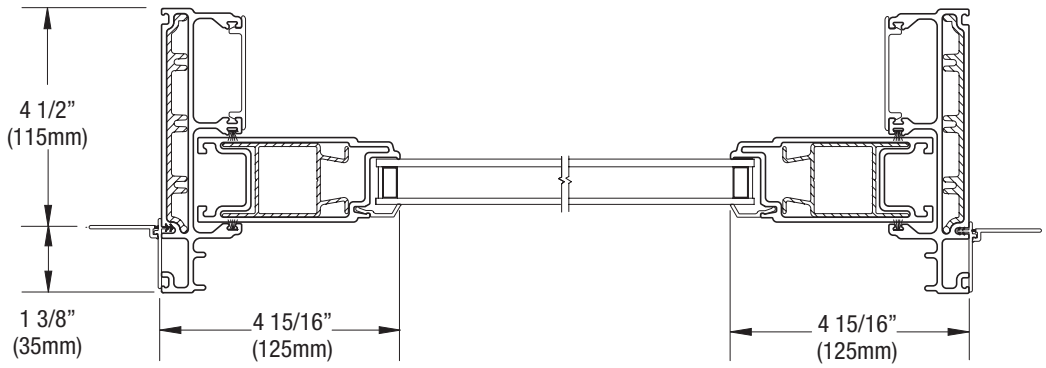
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



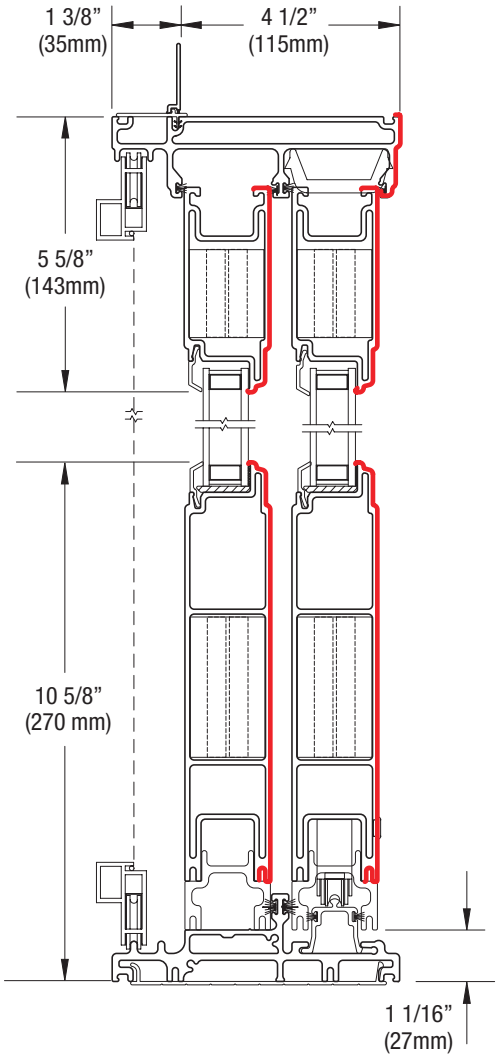
Exterior

Scale: 3" = 1' (1/4 scale)

3626/3626U-11
FEBRUARY 2009

3626 WoodClad Sliding French Door 3-Panel Assembly Drawing

3000 SERIES FIBERGLASS

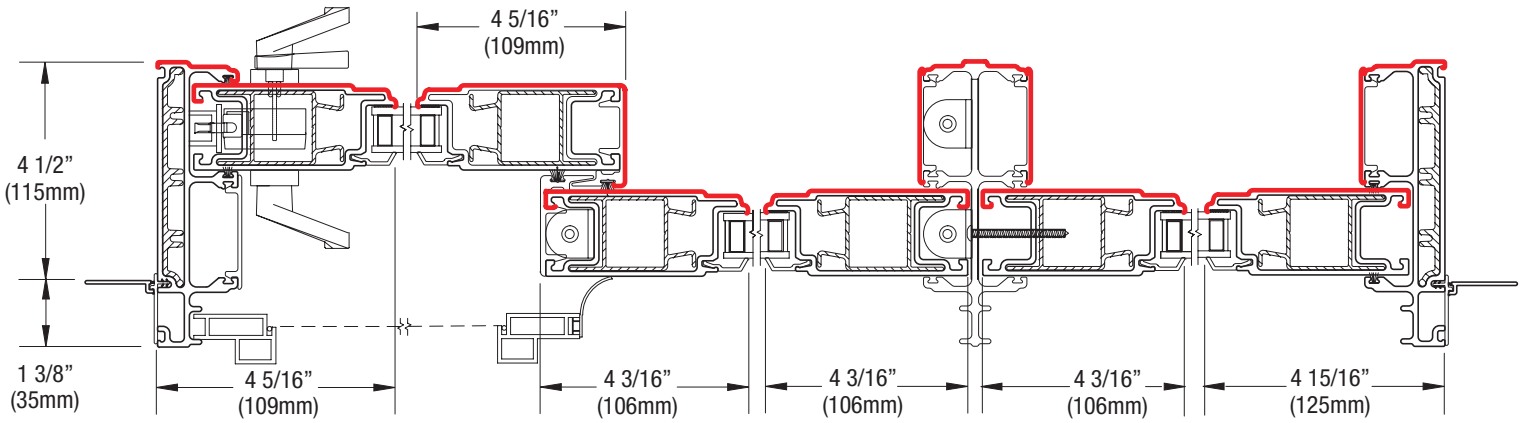


Vertical View

Exterior

Red indicates wood veneer

Horizontal View



Exterior

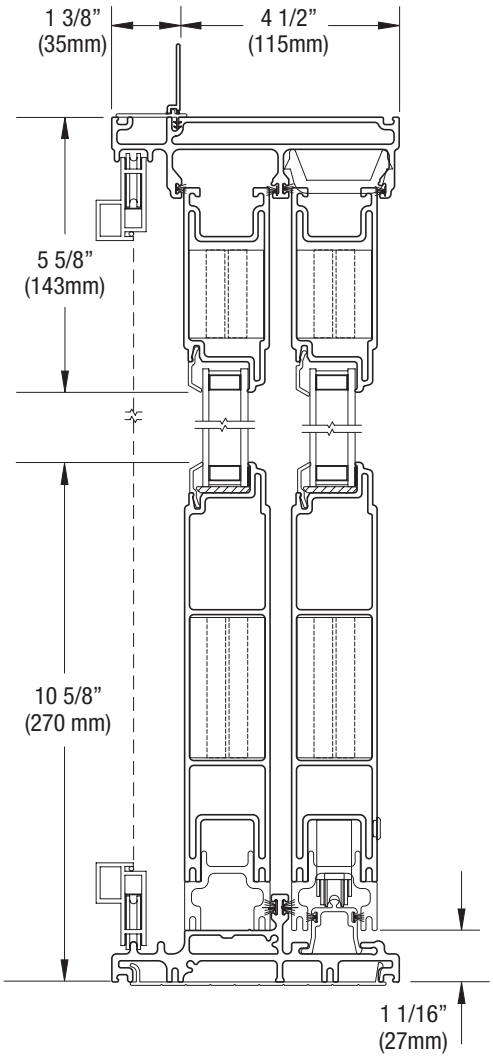
Scale: 3" = 1' (1/4 scale)

3626/3626U-12
FEBRUARY 2009

3626U Ultra Sliding French Door
3-Panel Assembly Drawing

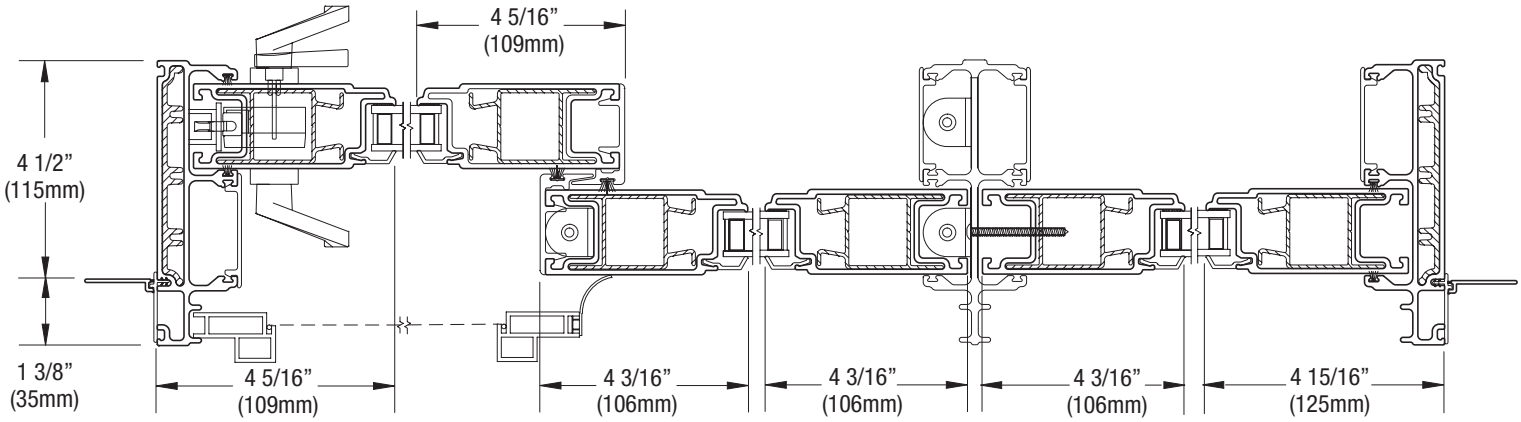
3000 SERIES FIBERGLASS

Vertical View



Exterior

Horizontal View



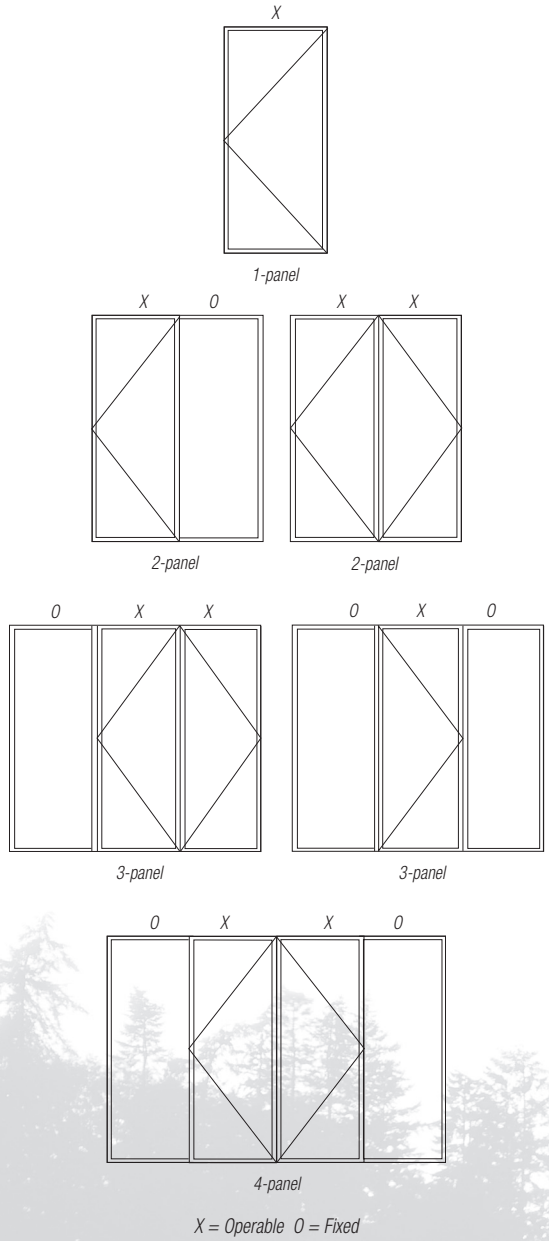
Exterior

Scale: 3" = 1' (1/4 scale)

3626/3626U-13
FEBRUARY 2009

3642 & 3642U, 3662 & 3662U
Fiberglass In-Swing French Doors

3000 SERIES FIBERGLASS



X = Operable O = Fixed

1-PANEL
- Min 2⁰6⁰ Max 3⁰8⁰

2-PANEL
- Min 5⁰6⁰ Max 6⁰8⁰

3-PANEL
- Min 7⁰6⁰ Max 9⁰8⁰

4-PANEL
- Min 10⁰6⁰ Max 12⁰8⁰

SPECS
- 1, 2, 3, 4 - panel
- 1 & 2 Panel door available with fixed or operable Side-Lites
- Special size doors available*
- O - fixed panel
- X - operable panel
- F - fixed Side-Lite
- H - hinged Side-Lite
- Keyed lock available (Schlage®-compatible)
- Frame depth 4-9/16", 6-9/16"
- Overall glass thickness 7/8"
- Door hand to be determined when ordering
- Door hand viewed from exterior

RECOMMENDED STANDARD SIZES

rough opening width

height	30"	36"	60"	72"	96"	108"	120"	144"
6'-8"	1	1	2	2	3	3	4	4
6'-10"	1	1	2	2	3	3	4	4
8'-0"	1	1	2	2	3	3	4	4

Number indicates number of panels

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications.

**3 & 4 panel units ship open for field glazing*

WOOD FINISHING – WOODCLAD SERIES

The unfinished wood interior surfaces must be finished and sealed promptly for best results and protection. For maximum protection, finish the interior wood surfaces prior to, or immediately after installation. If the product is to be stored for any length of time before installation, avoid exposure to any moisture conditions. Do not expose the unfinished wood to high heat, high humidity, or excessive construction moisture conditions. Unfinished wood surfaces subject to water damage at the jobsite, or left unfinished before/after installation so that the wood interior surfaces become stained or damaged, will not be considered as "defective in materials or workmanship" under the terms of Milgard's Warranty. Do not apply any finishes to the weatherstrip.

3642, 3662 & 3642U, 3662U Series Fiberglass In-Swing French Doors

3000 SERIES FIBERGLASS

The 3642 & 3662 WoodClad Series and 3642U & 3662U Ultra Series Fiberglass In-Swing French Doors blend the energy efficiency and overall aesthetic appeal of wood French patio doors with the low maintenance and structural integrity of pultruded fiberglass. Both series provide door units sized for common 4-9/16" (3642 and 3642U) or 6-9/16" (3662 and 3662U) wall thicknesses in one, two, three and four panel configurations. In addition, narrow stile side-lites are available as a fixed or operating unit within the door configuration. Outside, the durable painted finish won't peel or mildew – it never needs painting again. But unlike vinyl, it can be painted to complement any home. The doors can be constructed to your exact size specifications, subject to review by Milgard engineers.

Like all Milgard windows, patio doors and skylights, the Ultra™ & WoodClad™ Series carry a Full Lifetime Warranty to the original, single family homeowner, covering both materials and labor. The Ultra & WoodClad series also carry a lifetime glass breakage warranty. The Milgard Warranty is fully transferable for up to ten years.

Commercial and multi-family or apartment projects are covered by a 10 year Warranty from the date of manufacture, covering all materials and labor, including the glass unit(s). For complete warranty details visit milgard.com.

CONFIGURATIONS

The 3642, 3662 and 3642U, 3662U Series Doors are designed as an inswinging French Patio Door with center swing or jamb swing capabilities in one, two, three and four-panel configurations. The 3642, 3662 and 3642U, 3662U Series Doors come pre-hung for easy installation.

COMPONENTS

WOODCLAD FRAME

Milgard's WoodClad In-Swing French Door composite frame consists of a structural pultruded fiberglass foundation joined with an interior reveal of premium wood veneer.

Milgard's Ultra frame is based on the same structural pultruded fiberglass foundation, with the interior reveal painted white. Other standard interior colors are available.

The door panels are 1-3/4" in thickness while jambs are available in standard thicknesses of 4-9/16" or 6-9/16".

Milgard WINDOWS & DOORS

3000 SERIES FIBERGLASS

3642, 3662 & 3642U, 3662U Series Fiberglass In-Swing French Doors

The exterior frame is available in any of the standard baked-on enamel finishes. Consult with your Milgard representative for additional color options.

In the WoodClad Series, interior reveals feature clear wood veneer. The Ultra Series interior reveals a clean, white painted finish. Other standard interior colors are available.

WOOD JAMB EXTENSIONS
Wood jamb extensions are an optional feature with all fiberglass doors. All wood jamb extensions for the WoodClad series are clear solid wood or wood with a premium veneer applied. Wood jamb extensions for the Ultra Series are available in both clear solid wood, wood with a premium veneer applied or pre-primed finger jointed wood.

NAIL FIN
A 1 1/8" wide aluminum nailing fin is standard for standard installations, with setback positions offered at 1-3/8" and 1". The fin creates a sturdy flange for securing the door into an opening.

GLAZING MATERIAL
A hot-melt sealant adheres the glazing unit to the panel frame, which seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-frame contact. Pultruded fiberglass glazing (snap-in) bead is applied around the interior edge.

GLASS
Insulating tempered dual glazed glass, 7/8" in overall thickness, is butyl sealed for longevity and energy efficiency. The unit has an ASTM E-774-81 Class A rating. Specialty glass options such as Milgard SunCoat™ Low-E insulating glass, obscures and tints are available upon request.

GRIDS
Both WoodClad and Ultra series windows and doors offer multiple grid configurations from seven different grid options. Grid patterns placed inside the glazing unit include 5/8" wide flat grids and 1-1/16" wide sculptured pattern grids. Grid patterns that simulate true divided lites are 1 1/8" Legacy, 1 1/8" Craftsman, 1 1/8" Vintage and 3/4" Vintage. Snap-in wood grids attach to the interior side of the window or door and remove for easy cleaning.

Specify requirements for matching grid patterns at the time of order. If match requirements are not specified, the grids may not line up with those in another size or series of window.

Unless otherwise specified, the grids will divide the window equally, with the bars set between 8-3/4" and 12" apart. A 4'0" x 3'0" picture window would be four squares wide by three squares high. A 4'0" x 3'0" single-hung would be four wide x four high because of the intermediate horizontal bar.

WEATHERSTRIPPING
Extruded soft vinyl compression weatherstripping maintains weather-tight seal around jambs and head. At the bottom edge of the door, a seal is created with the sill using double-fin rubber sill sweep weatherstrip material.

HARDWARE
The 3642, 3662 and 3642U, 3662U Series comes standard with multi-point lock of stainless steel, three locking points on jamb and keyed exterior (active side has multi-point operator; passive side engages shoot bolts into the head and sill). Handle sets available in multiple finishes.

HINGES
Three solid brass lift-off 4-1/4" adjustable (vertical and horizontal) hinges with four 2-1/2" screws per hinge for attachment with one of Milgard's standard finishes.

SILL
Bronze-colored pultruded fiberglass with sputter-coat, non-skid textured finish.

SCREEN
A heavy-duty, extruded aluminum screen, color-matched to door, rolls on raised monorail track in head and sill – heavy duty, adjustable dual-roller housing places two in the head and two in the sill. An optional retractable screen unit is available, housed in an extruded aluminum canister unit. Canister unit colors are available in white, tan, brownstone and matte black. Screen mesh used is charcoal-colored fiberglass mesh.

SIZING
All doors are factory-sized to fit in a framed opening, whether new or created by removing an existing window. Doors will be 1/2" smaller than the framed (rough) opening to allow 1/4" clearance on all sides (tolerance at +/- 1/16"). Built to rough opening size, with 1/2" deductions automatically made, no complex calculations are required for ordering.

OPTIONS

ENERGY PACKAGES
Milgard offers two energy efficiency upgrade packages that increase U-Value performance. 3D™ and 3D MAX™ use the ENERGY STAR® criteria from each climate zone and utilize materials that are tailored to each individual climate to increase energy efficiency.

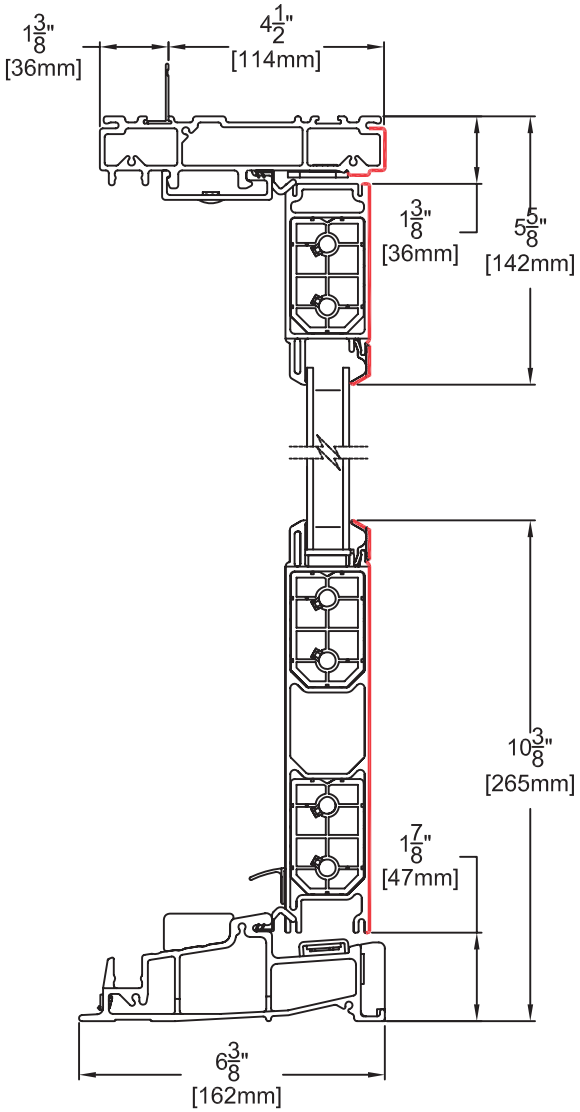
Note:
- Packages available in most markets and operating styles. Please see your local sales representative for availability.
- 3D and 3D MAX energy packages are based on insulated glass units with Single Strength (3/32") and Double Strength (1/8") glass. Some glass thicknesses and internal grid combinations may result in lower energy performance.

SIDE-LITES
Fixed and operable side-lites are available April 2009.

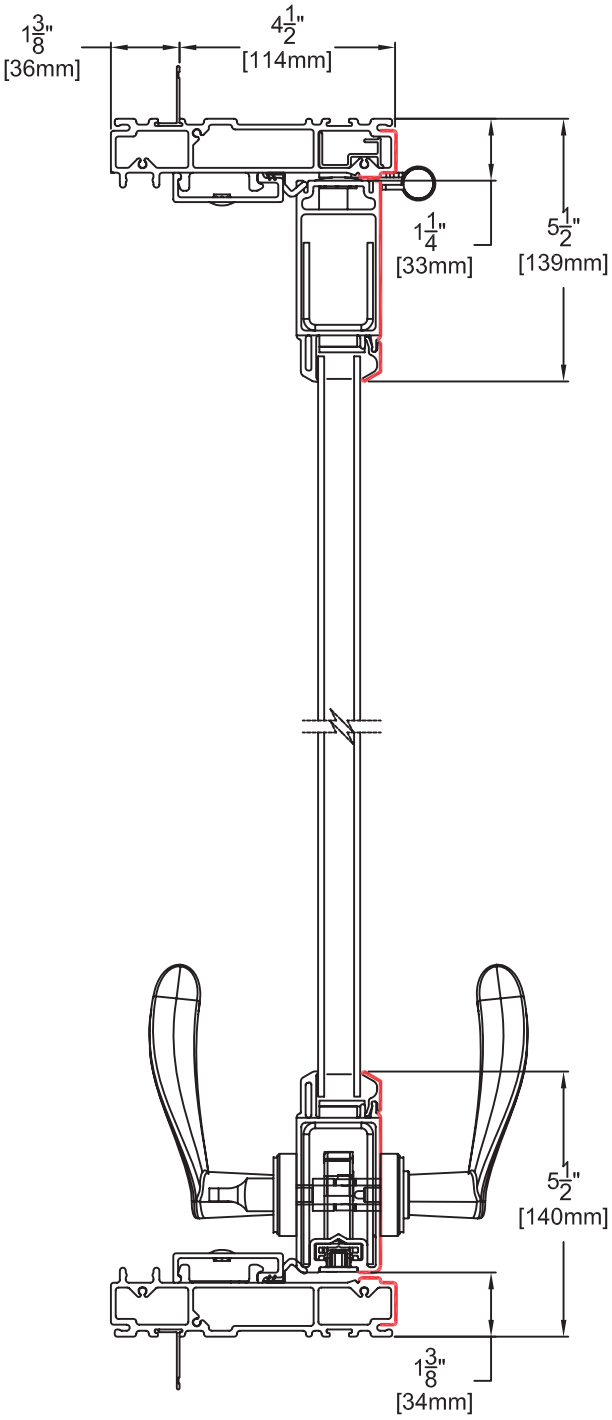
3642 WoodClad In-Swing 1-Panel Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View



Red indicates wood veneer

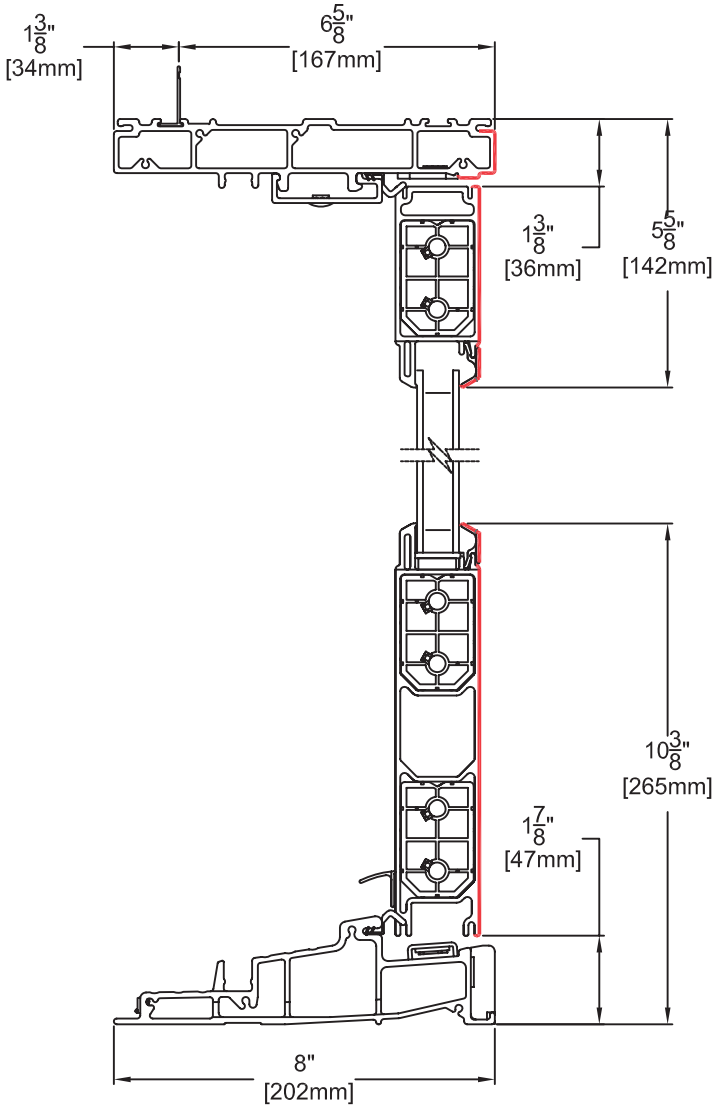
Scale: 3" = 1' (1/4 scale)

Milgard WINDOWS & DOORS

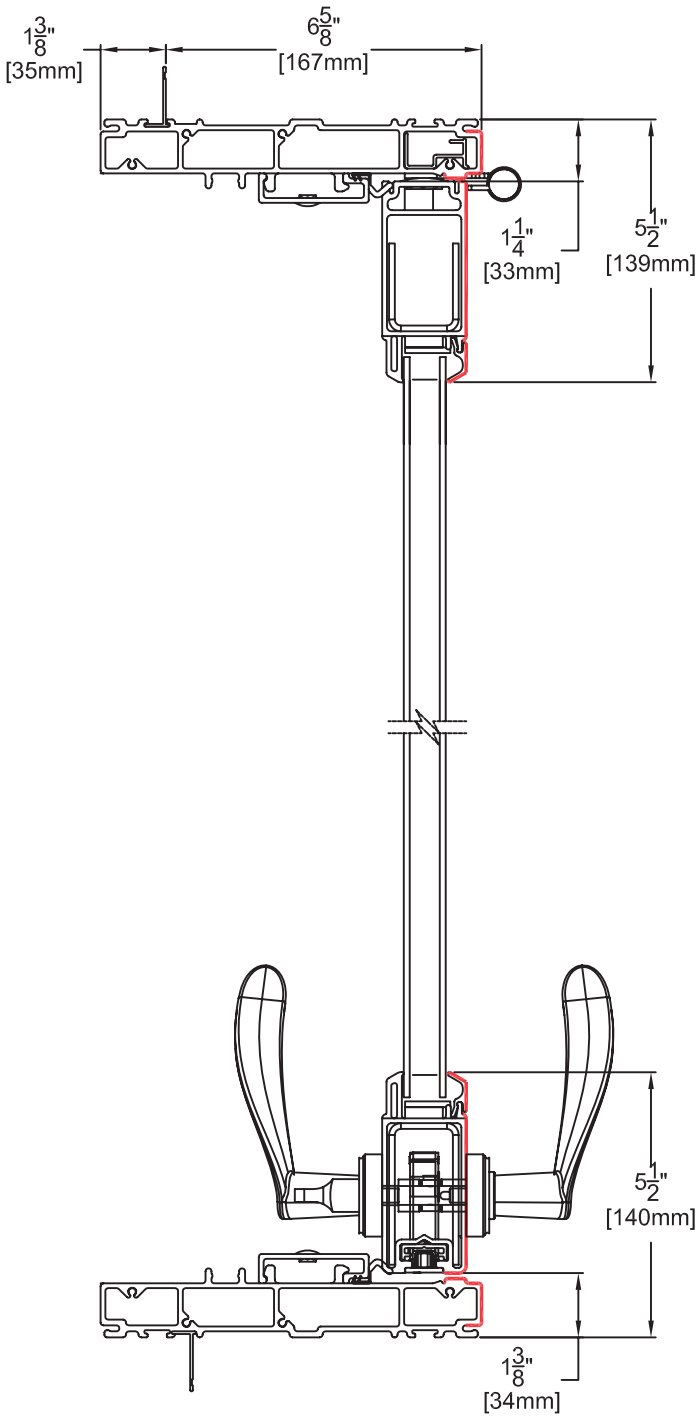
3662 WoodClad In-Swing 1-Panel Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View



Red indicates wood veneer

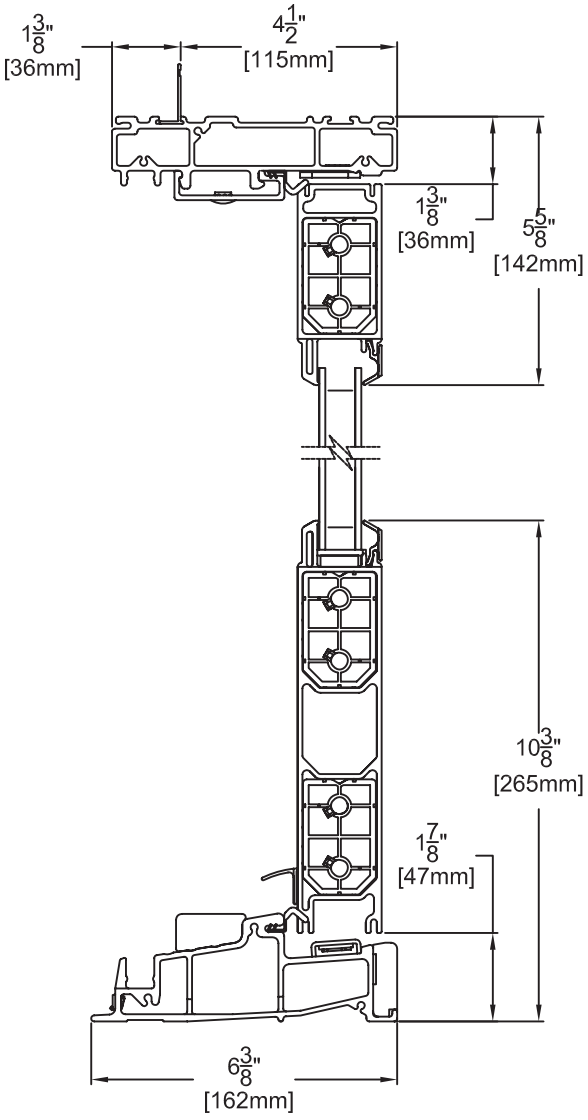
3642/3622-5
FEBRUARY 2009

Scale: 3" = 1' (1/4 scale)

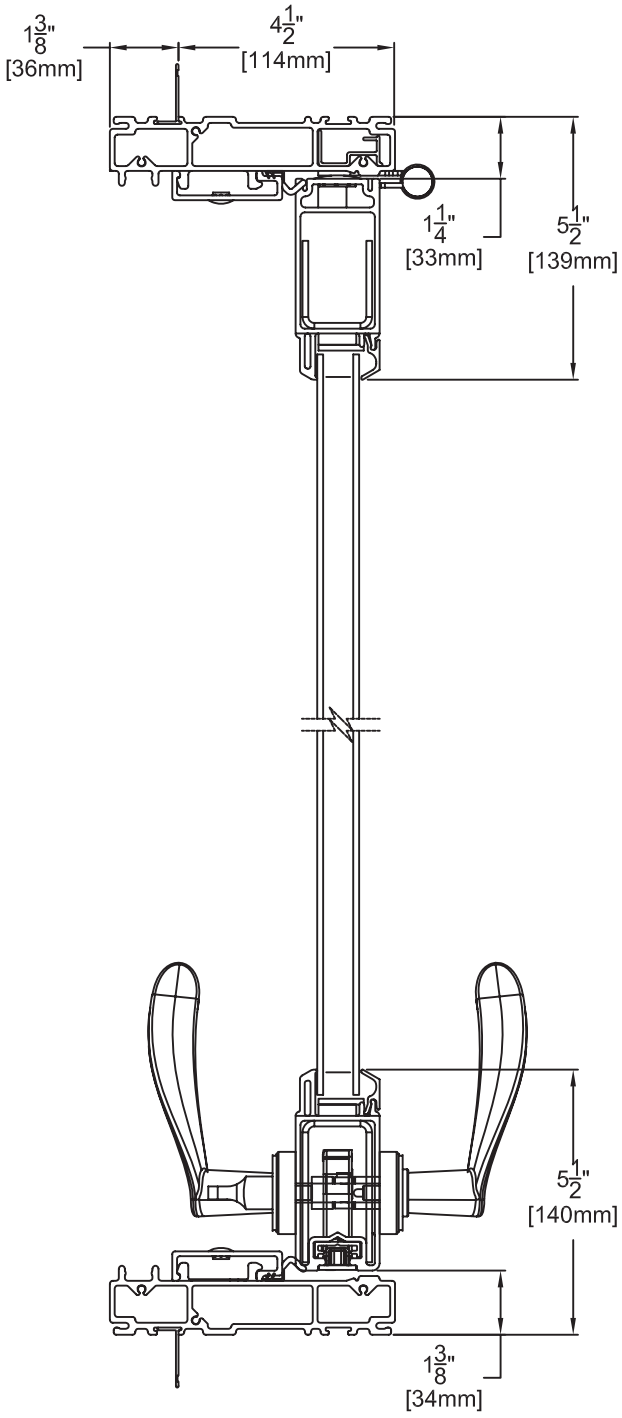
3642 Ultra In-Swing 1-Panel Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View

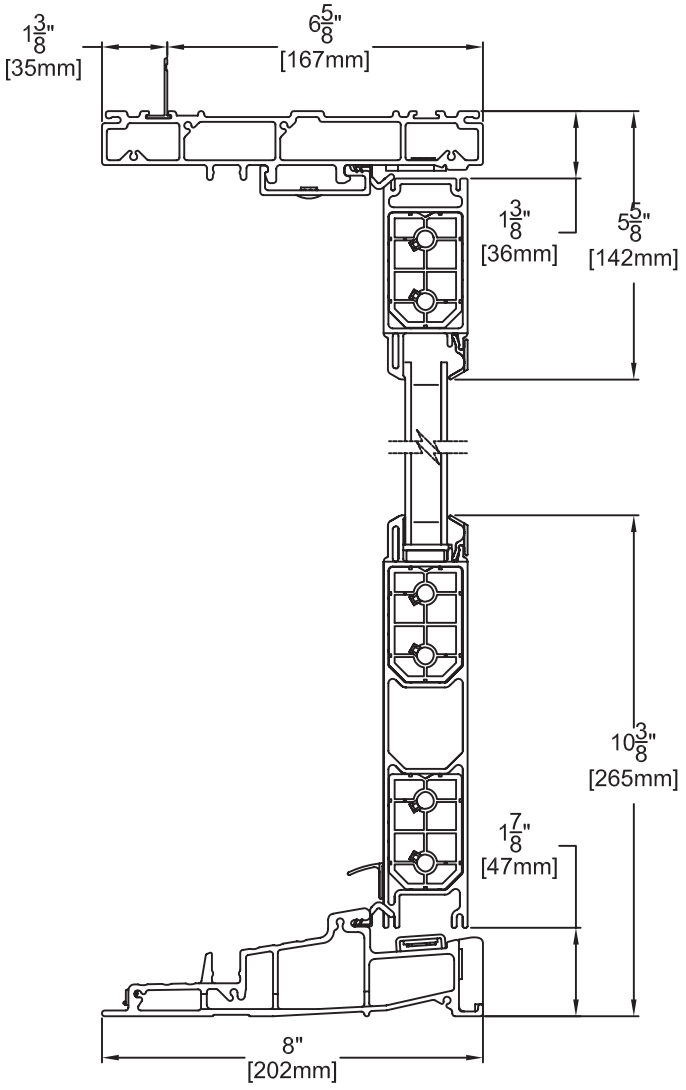


Scale: 3" = 1' (1/4 scale)

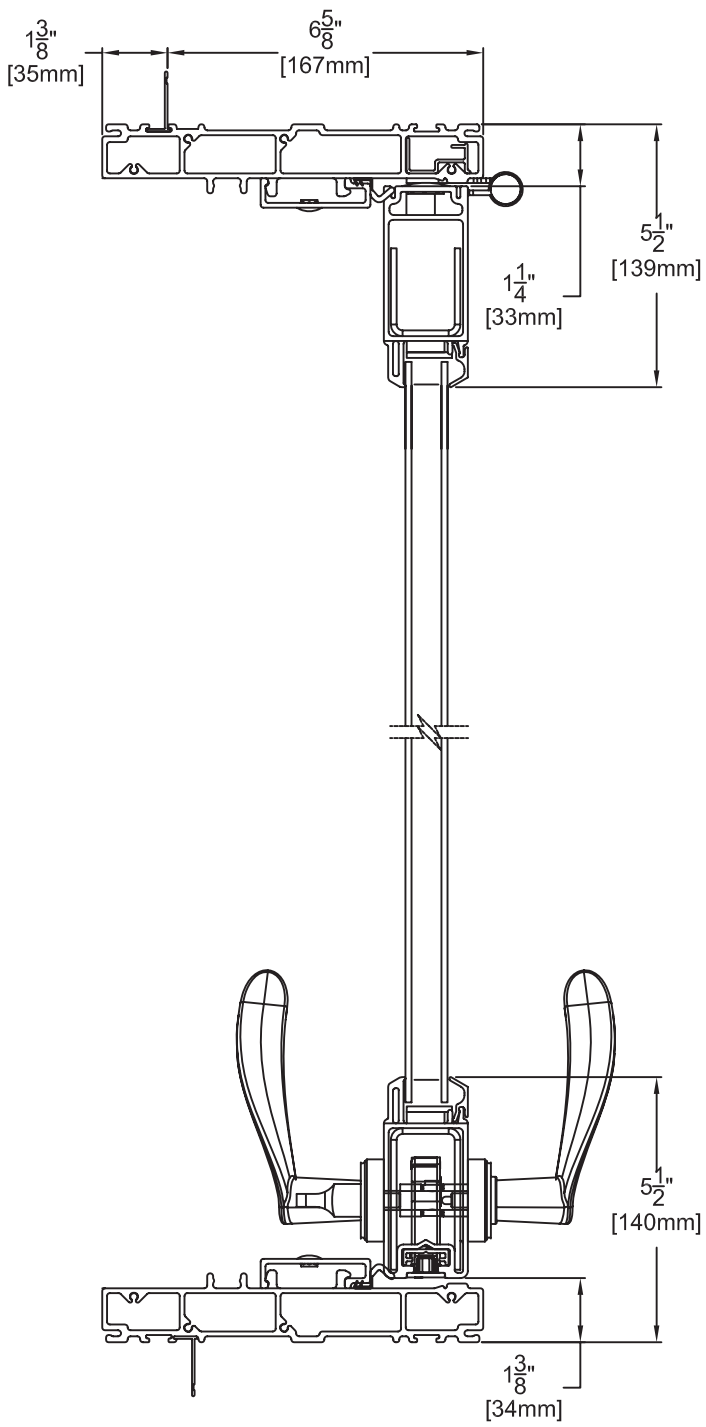
3662 Ultra In-Swing 1-Panel Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View



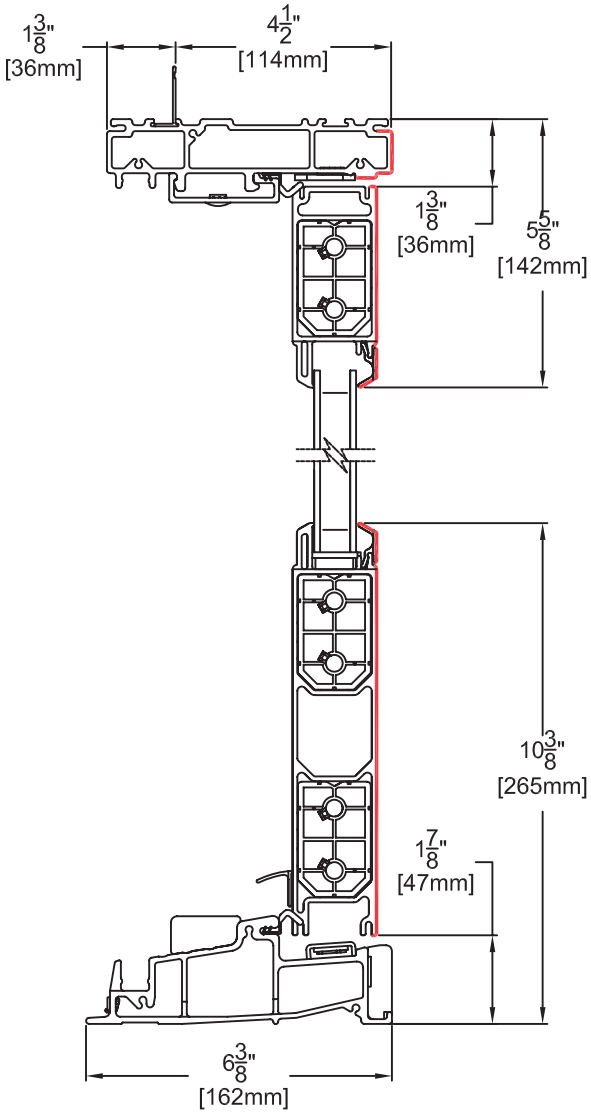
Scale: 3" = 1' (1/4 scale)

3642/3622-7
FEBRUARY 2009

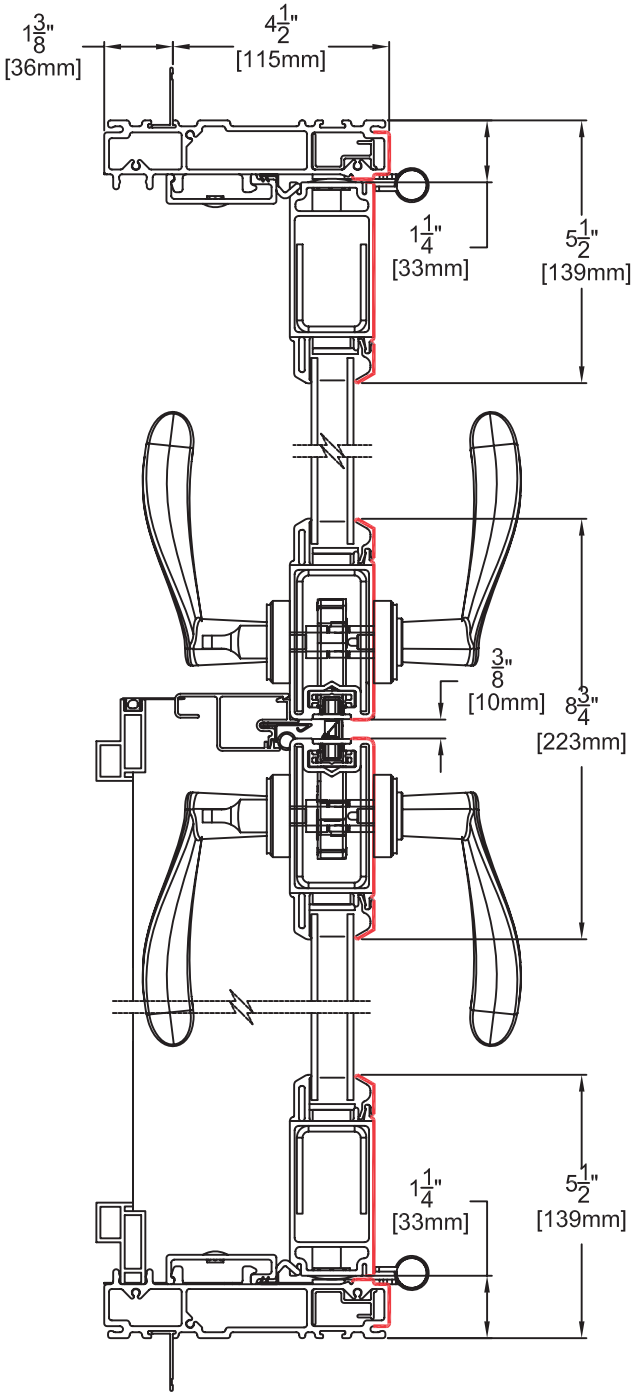
3642 WoodClad In-Swing 2-Panel Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View



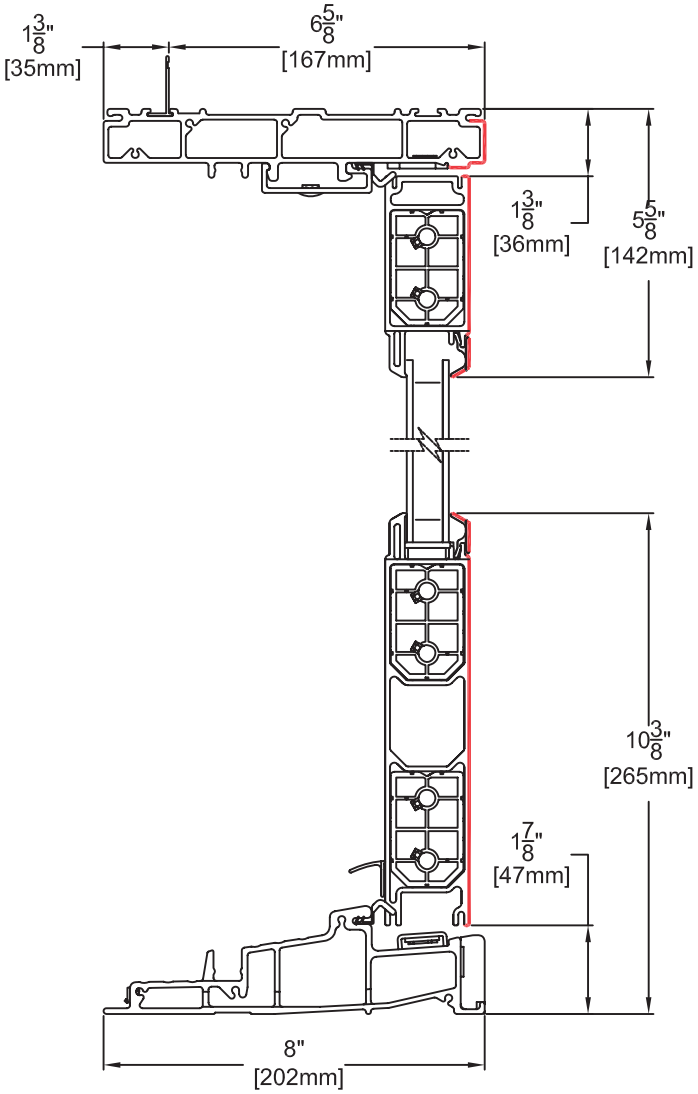
Red indicates wood veneer

Scale: 3" = 1' (1/4 scale)

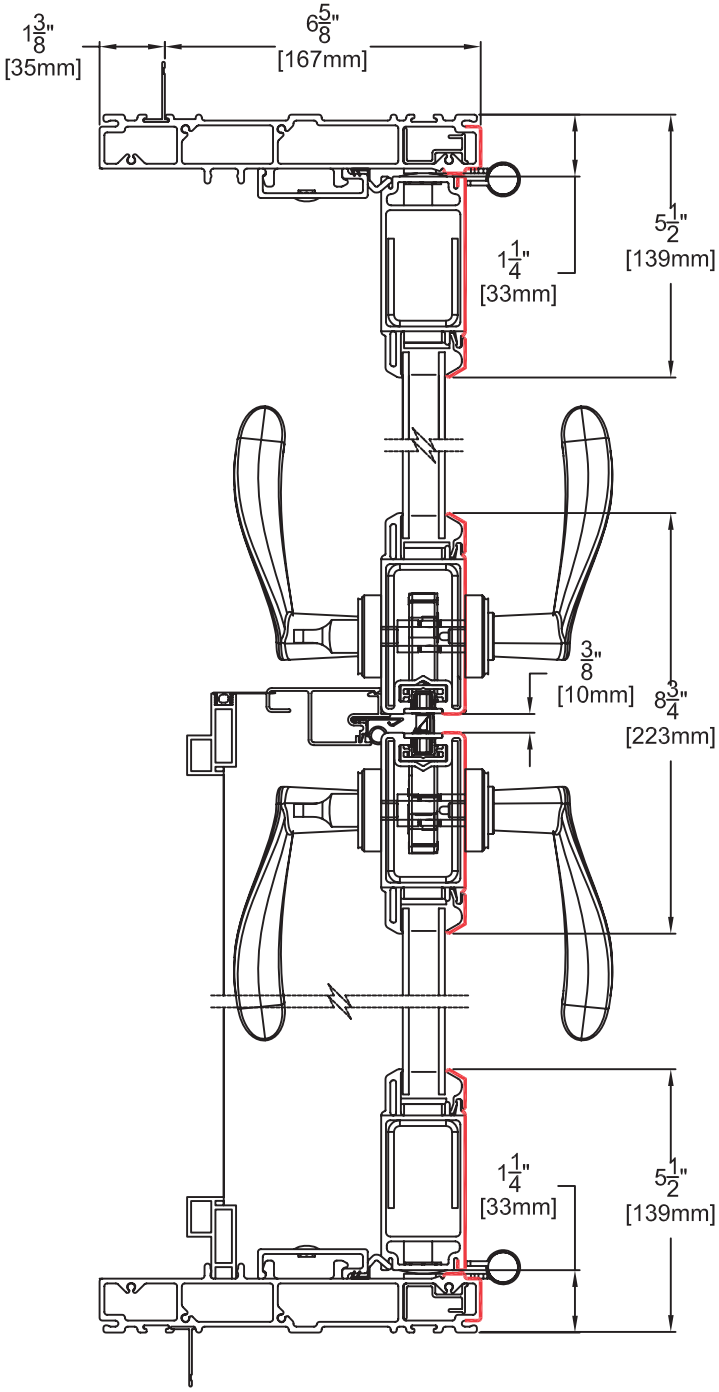
3662 WoodClad In-Swing 2-Panel Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View



Red indicates wood veneer

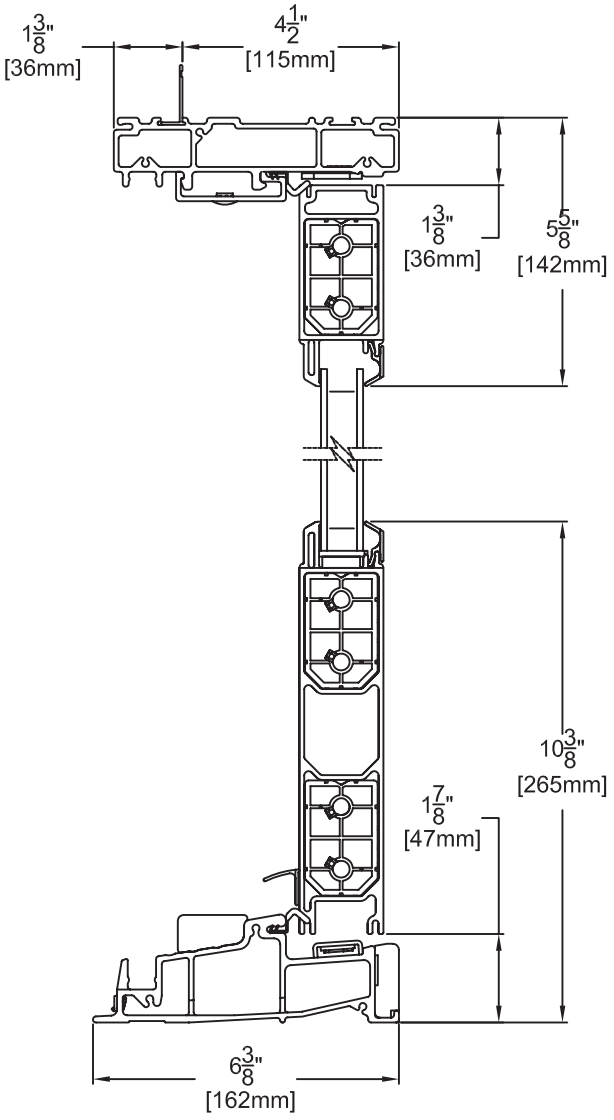
3642/3622-9
FEBRUARY 2009

Scale: 3" = 1' (1/4 scale)

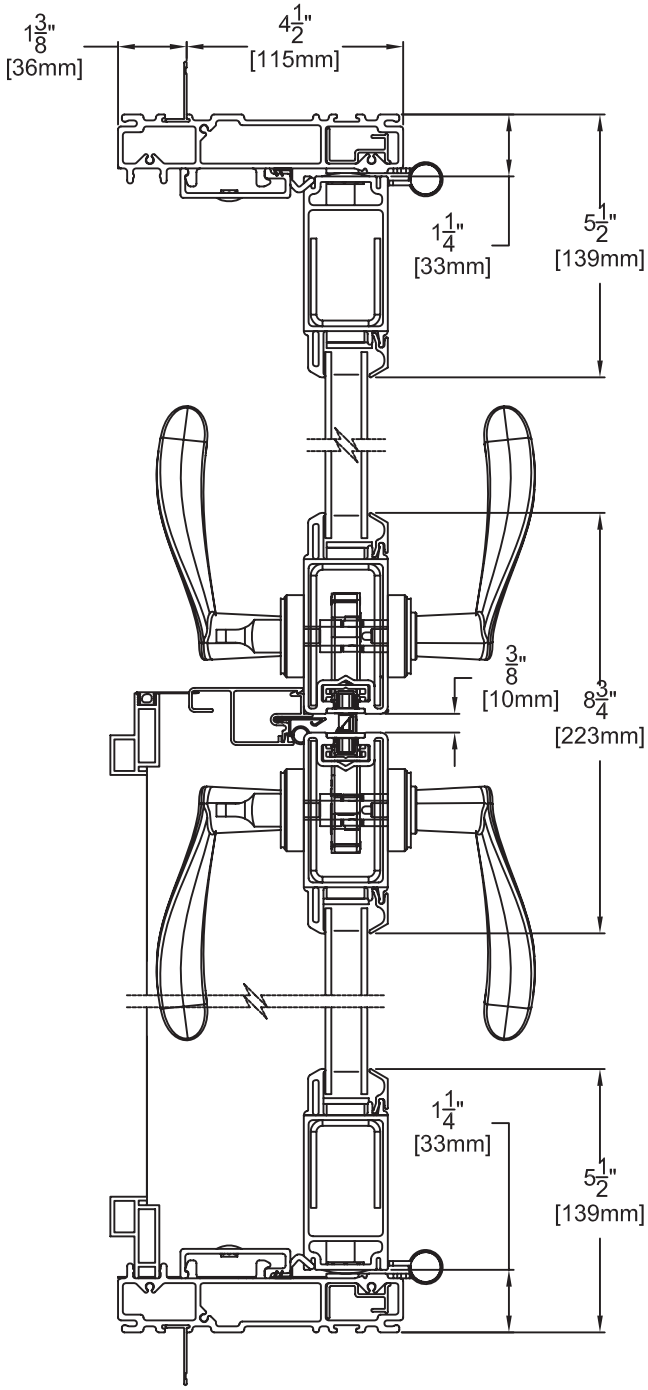
3642 Ultra In-Swing 2-Panel Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View



Scale: 3" = 1' (1/4 scale)

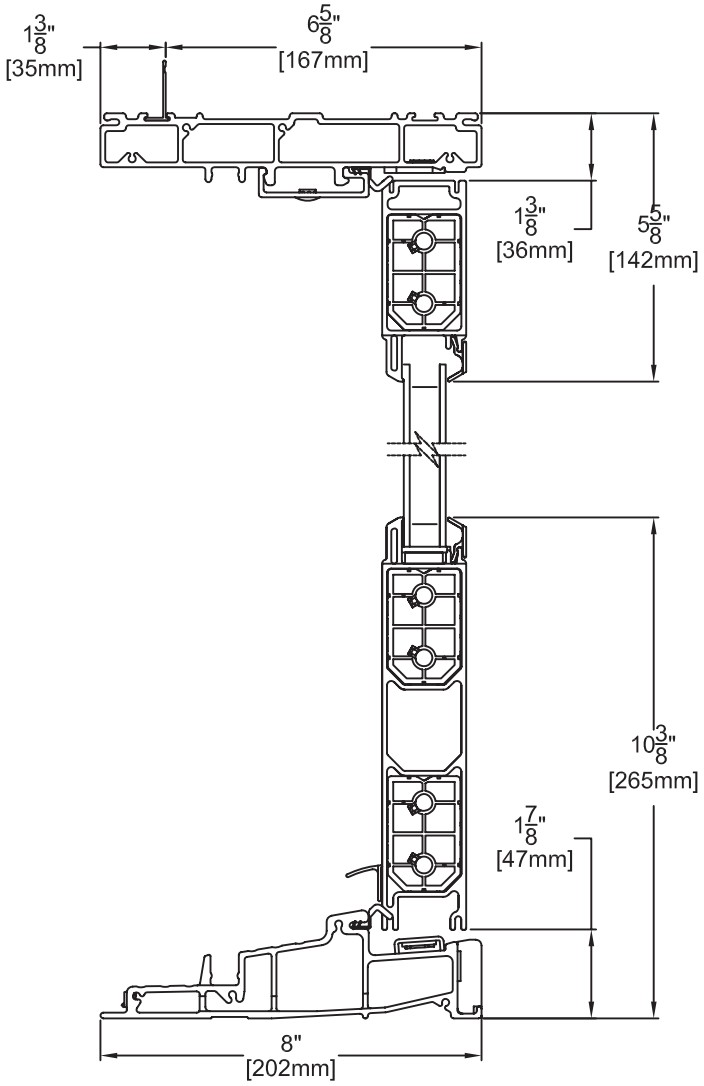
3642/3622-10
FEBRUARY 2009

Milgard WINDOWS & DOORS

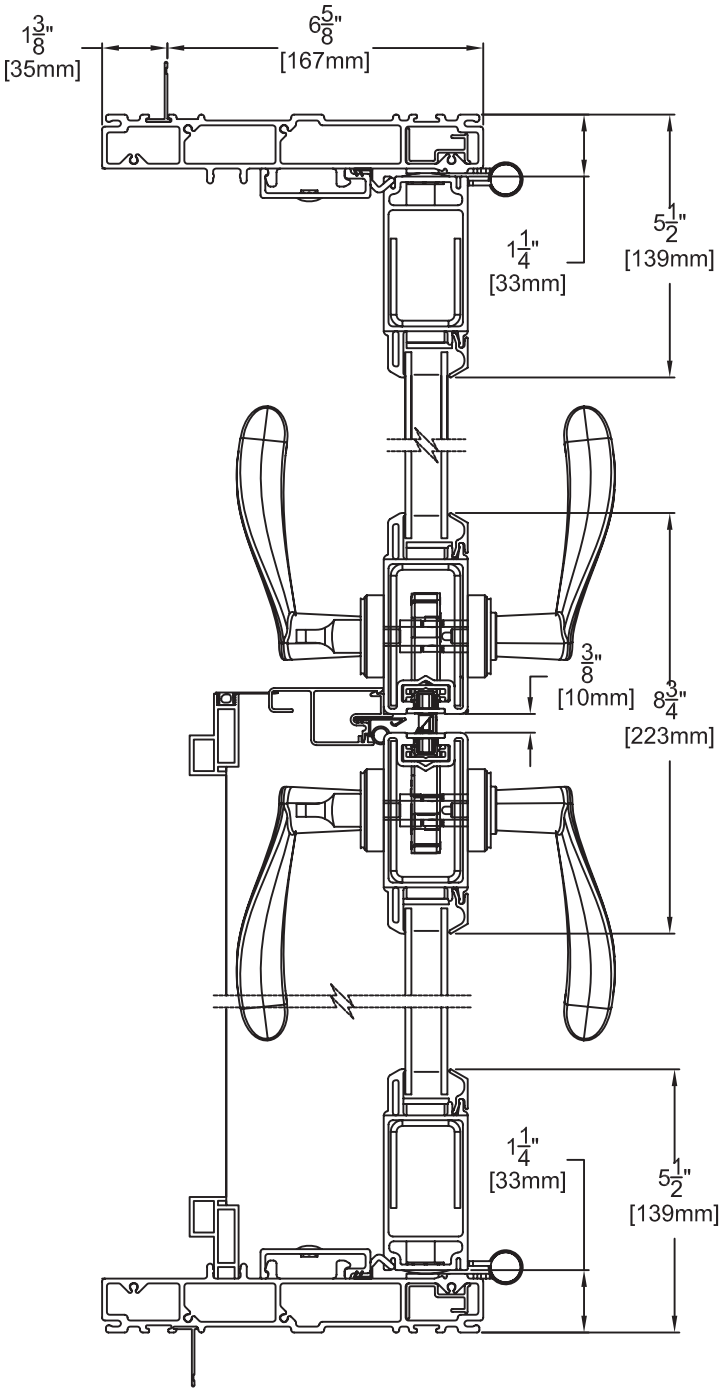
3662 Ultra In-Swing 2-Panel Assembly Drawing

3000 SERIES FIBERGLASS

Vertical View



Horizontal View



3642/3622-11
FEBRUARY 2009

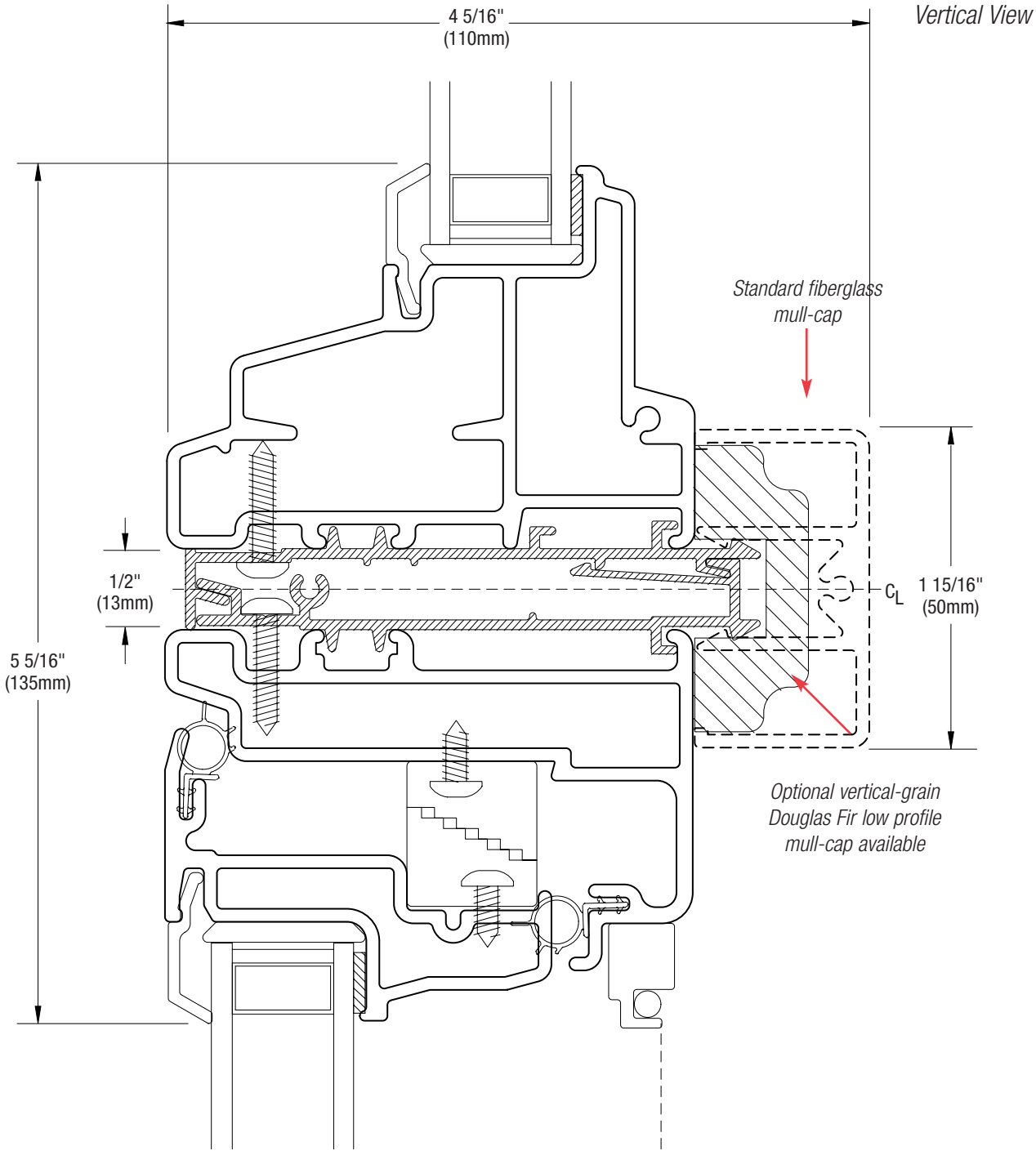
Scale: 3" = 1' (1/4 scale)

Fiberglass Assembly Drawing

3310 Picture Window Mulled to 3410 Awning

3000 SERIES FIBERGLASS

Vertical View



Scale: Actual size

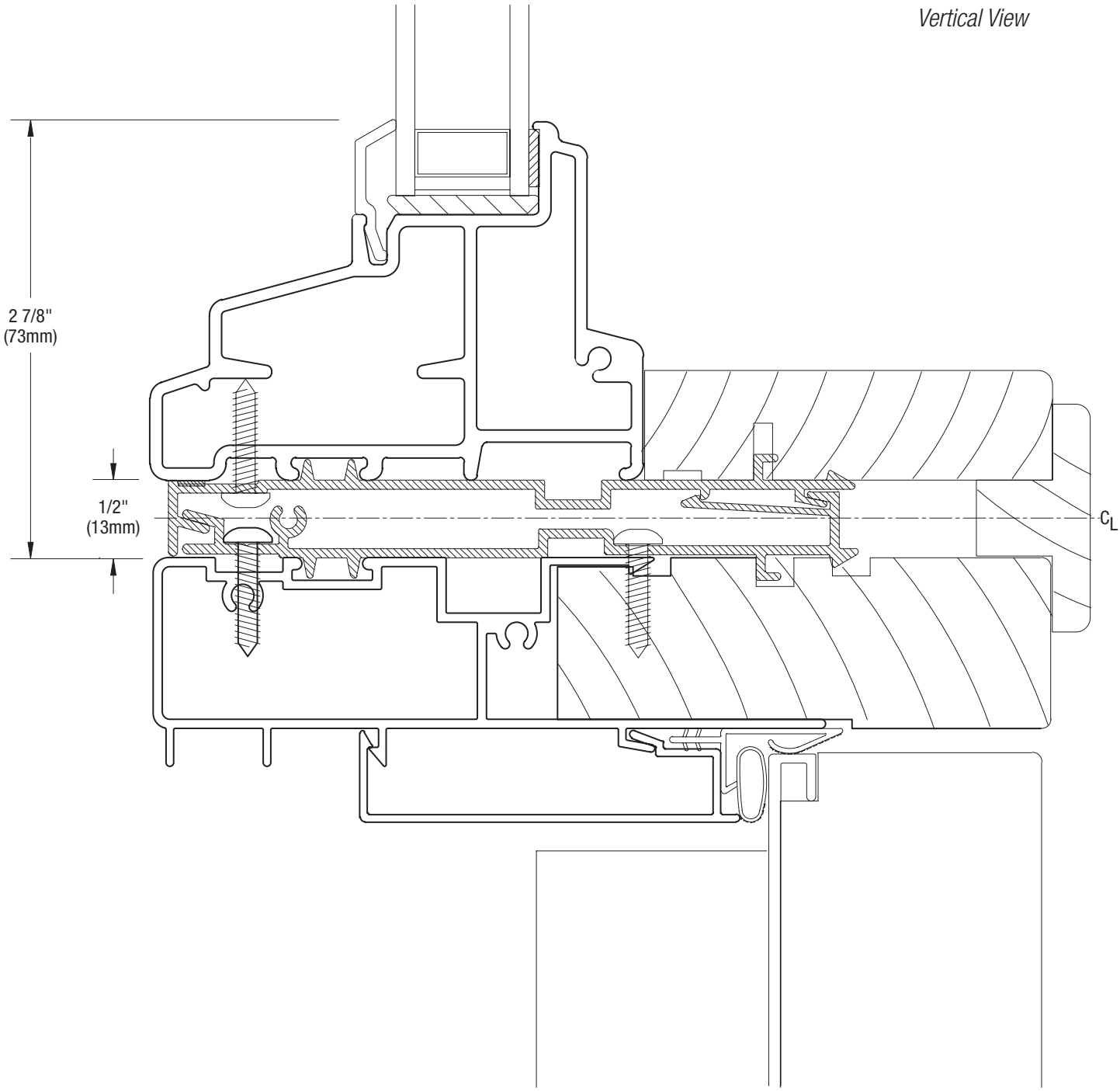
MULLS-1
FEBRUARY 2009

Fiberglass Assembly Drawing

3310 Picture Window Mulled to 3621 Door

3000 SERIES FIBERGLASS

Vertical View



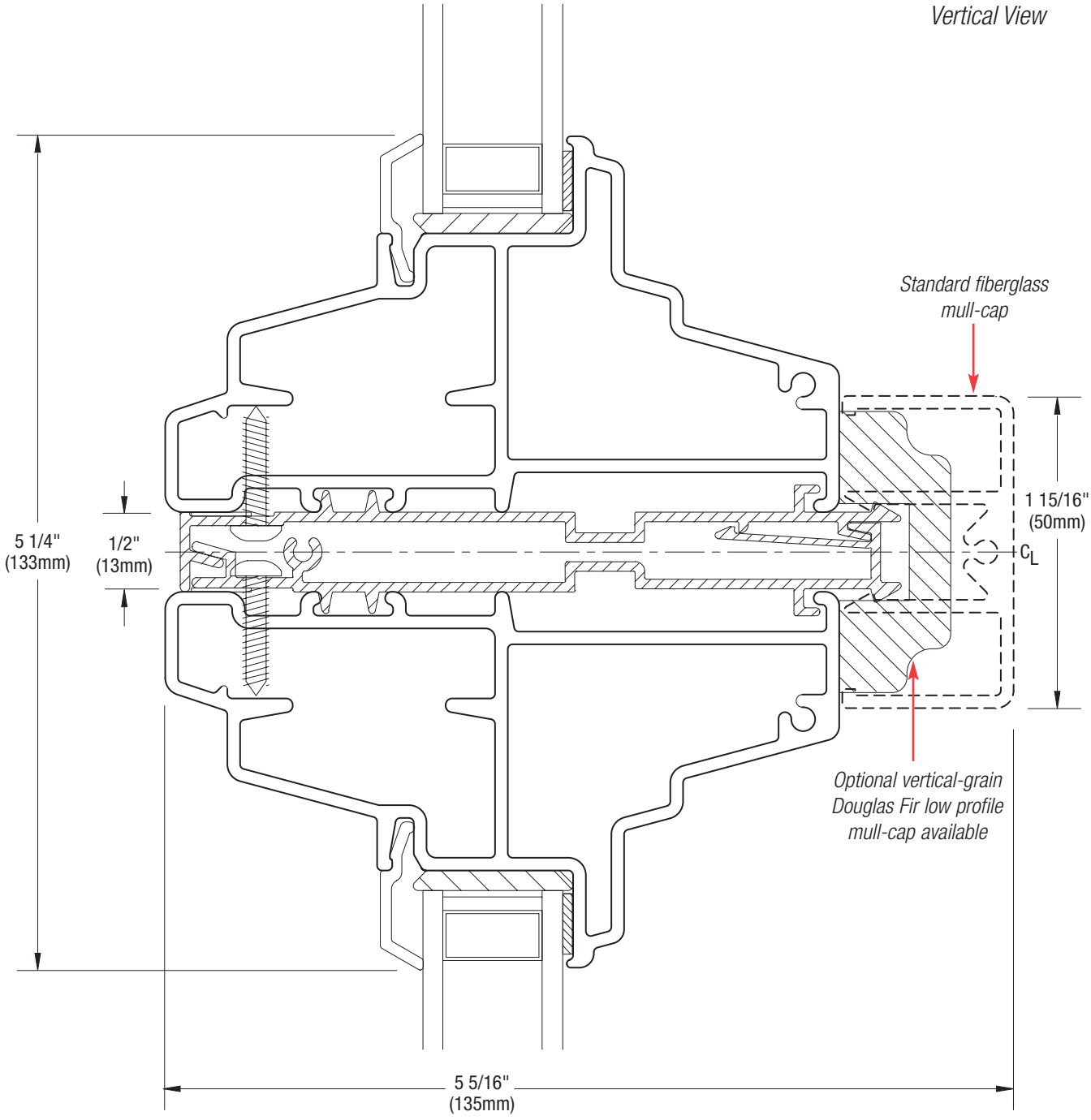
Scale: Actual size

Fiberglass Assembly Drawing

3315 Picture Window Mulled to 3315 Picture Window

3000 SERIES FIBERGLASS

Vertical View



Scale: Actual size

MULLS-3
FEBRUARY 2009

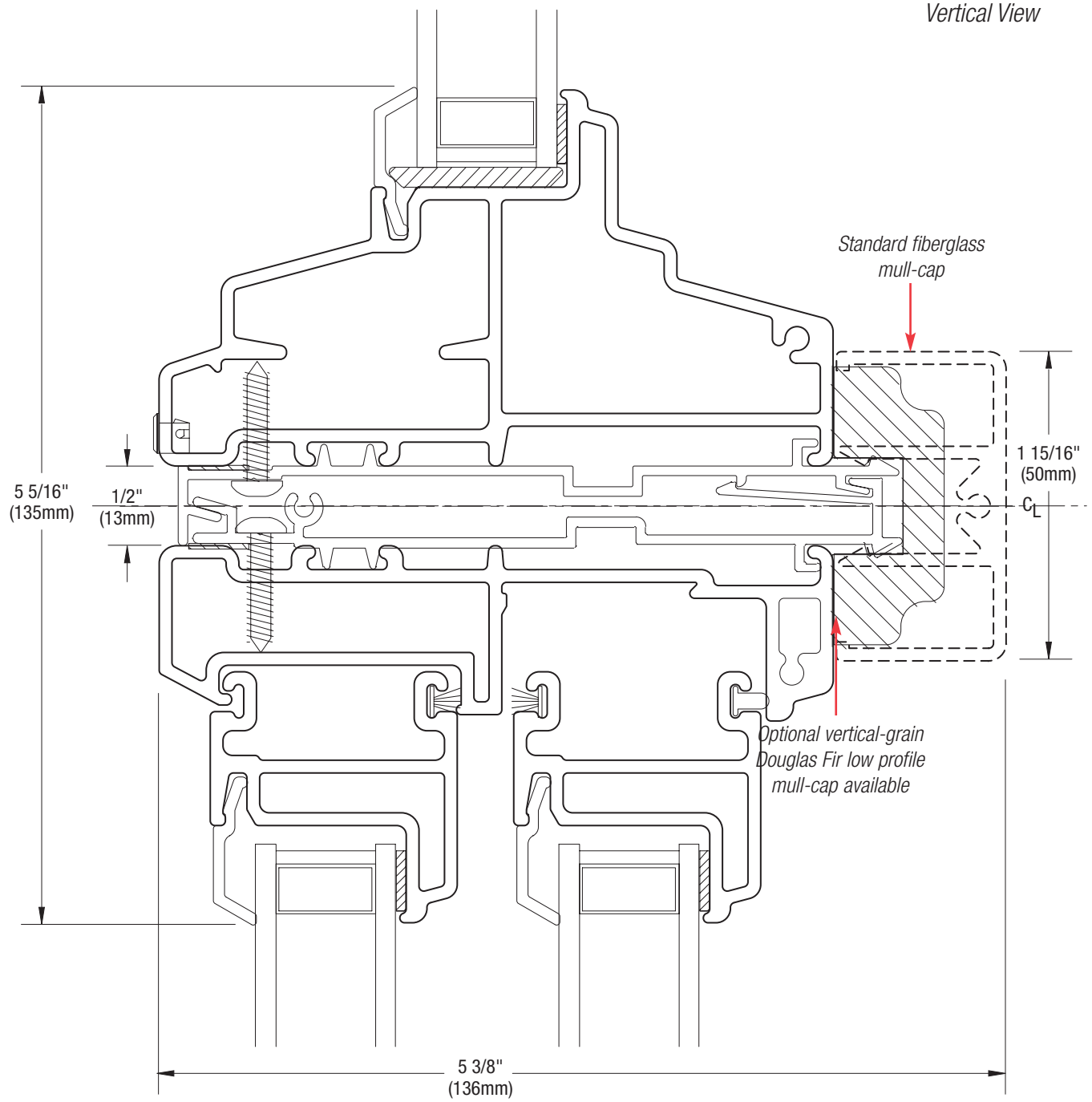
Milgard WINDOWS & DOORS

3000 SERIES FIBERGLASS

Fiberglass Assembly Drawing

3315 Picture Window Mulled to 3110 Horizontal Slider

Vertical View



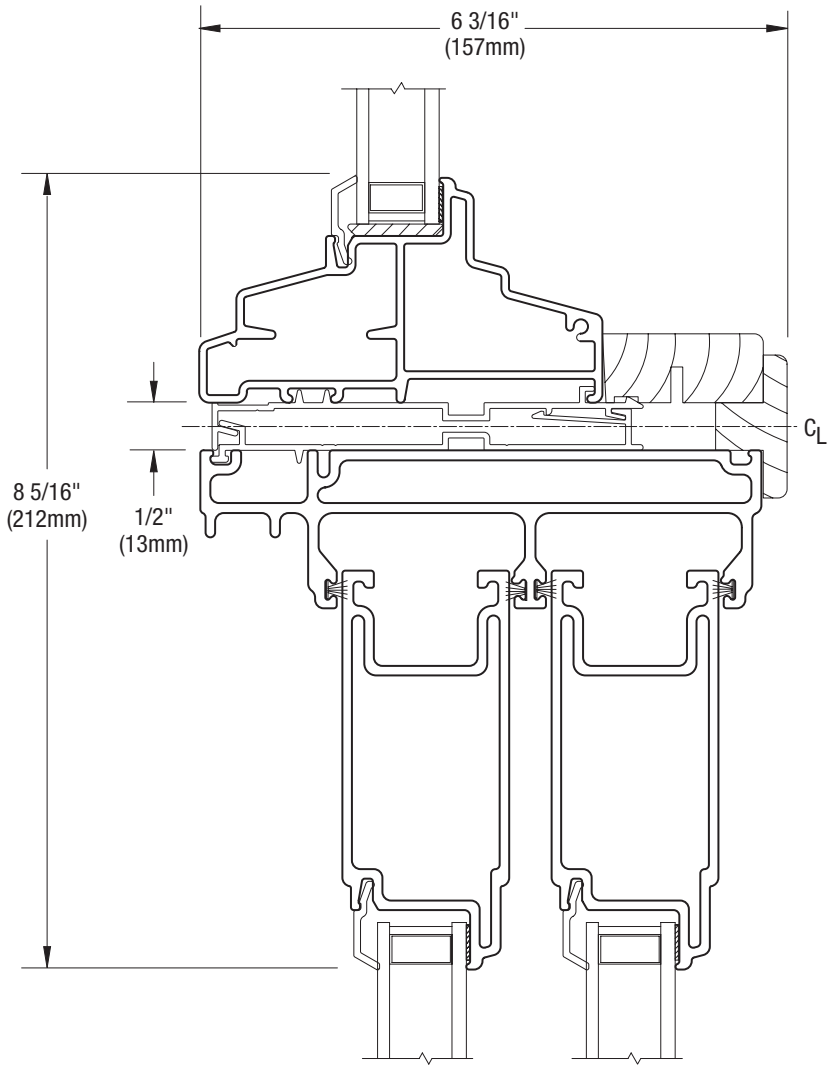
Scale: Actual size

Fiberglass Assembly Drawing

3315 Picture Window Mulled to 3626 4-9/16" Frame

3000 SERIES FIBERGLASS

Vertical View



Scale: 6" = 1' (1/2 scale)

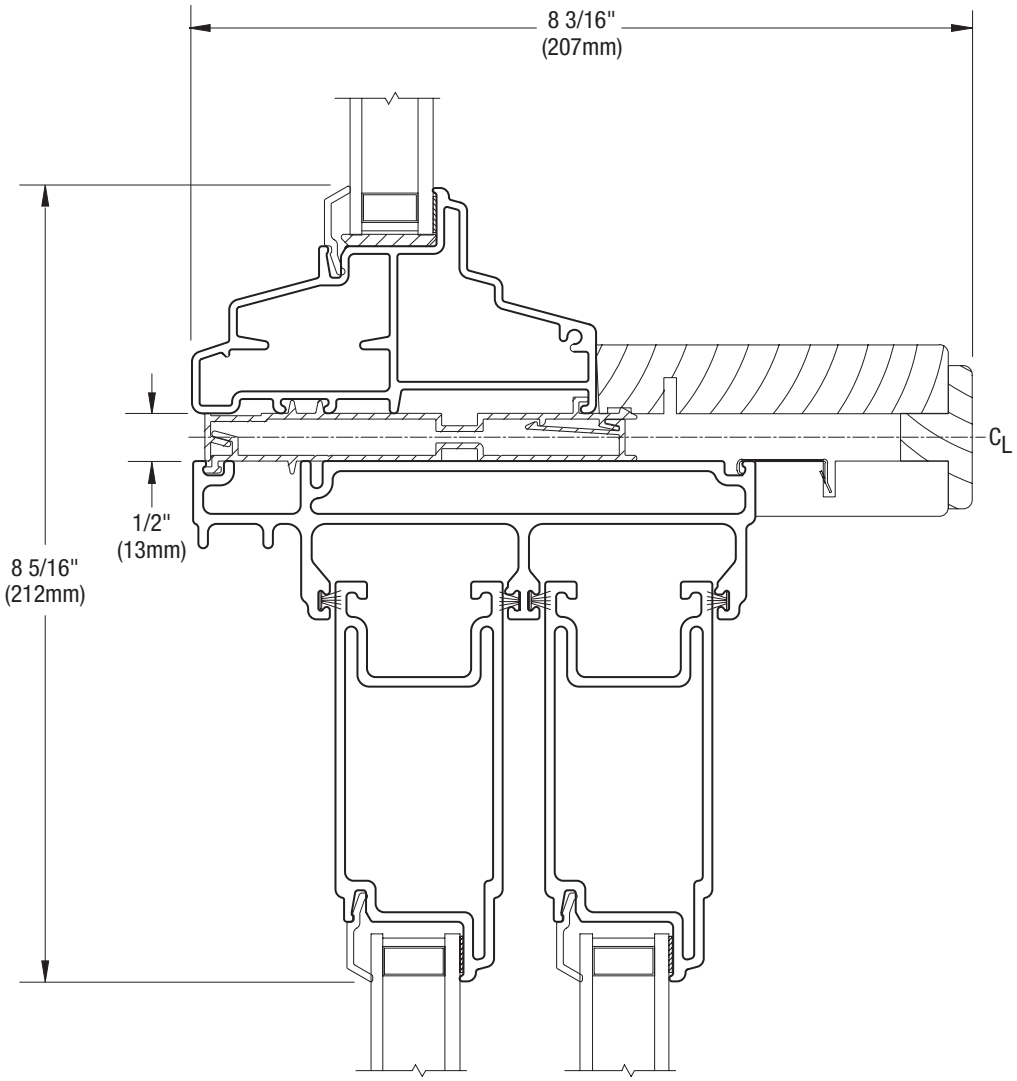
MULLS-5
FEBRUARY 2009

Fiberglass Assembly Drawing

3315 Picture Window Mulled to 3626 6-9/16" Frame

3000 SERIES FIBERGLASS

Vertical View



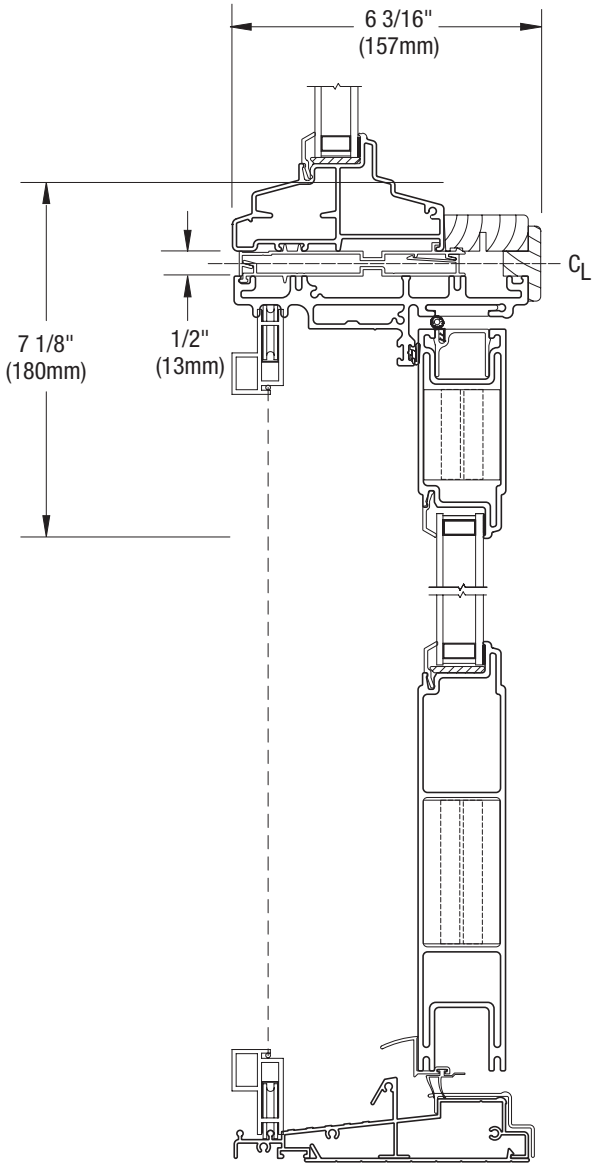
Scale: 6" = 1' (1/2 scale)

Fiberglass Assembly Drawing

3315 Picture Window Mulled to 3622 Door

3000 SERIES FIBERGLASS

Vertical View



Scale: 3" = 1' (1/4 scale)

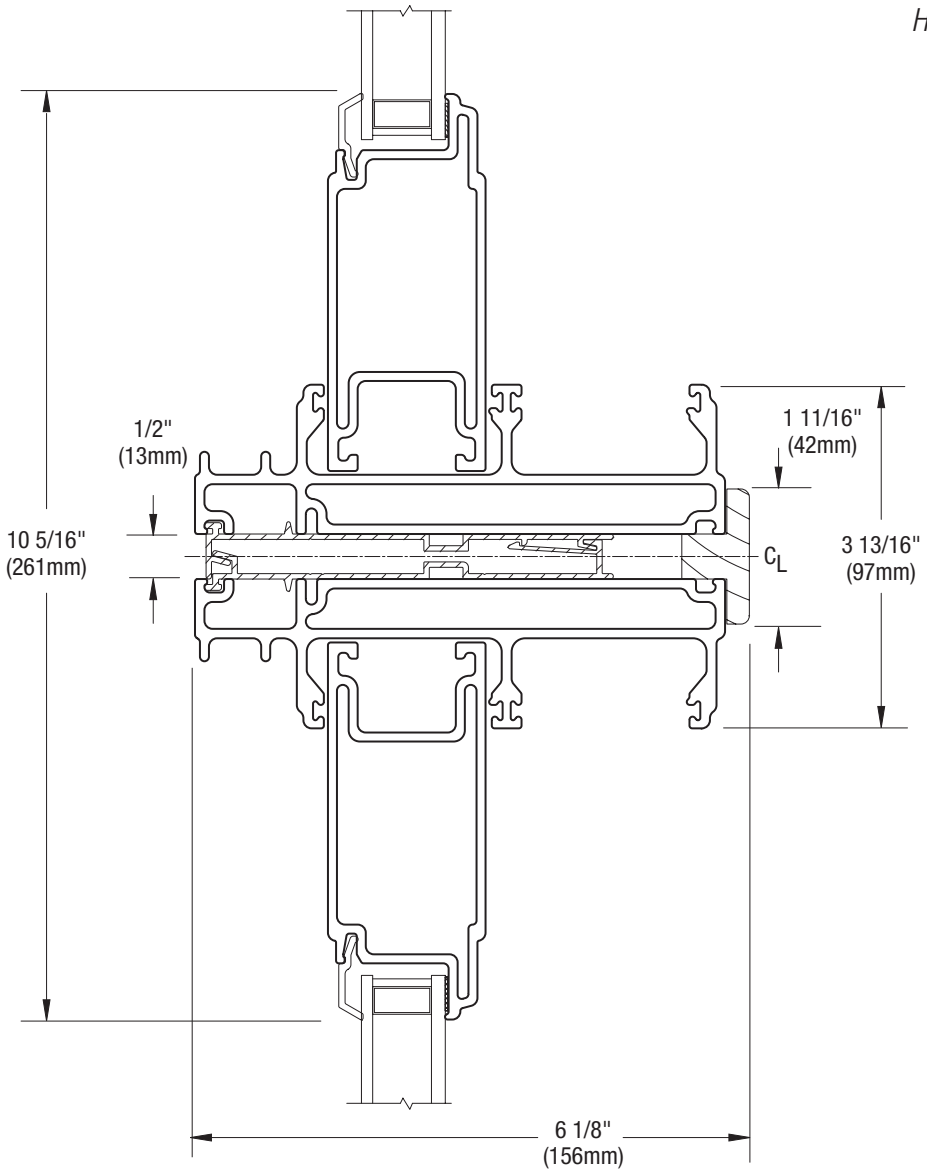
MULLS-7
FEBRUARY 2009

Fiberglass Assembly Drawing

3626 Door Mulled to 3626 Door For 4-9/16"Wall

3000 SERIES FIBERGLASS

Horizontal View



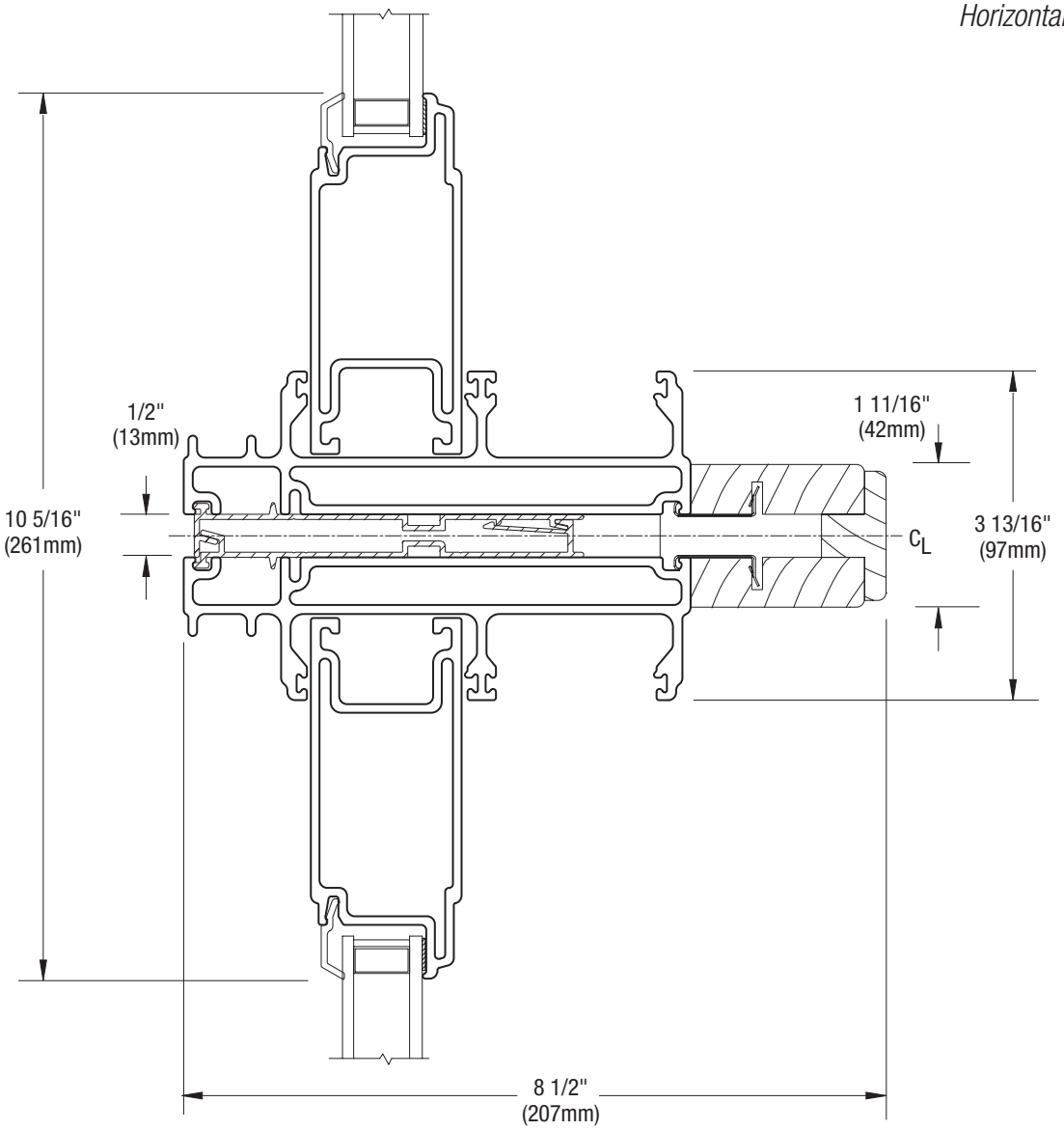
Scale: 6" = 1' (1/2 scale)

Fiberglass Assembly Drawing

3626 Door Mulled to 3626 Door For 6-9/16"Wall

3000 SERIES FIBERGLASS

Horizontal View



Scale: 6" = 1' (1/2 scale)

MULLS-9
FEBRUARY 2009

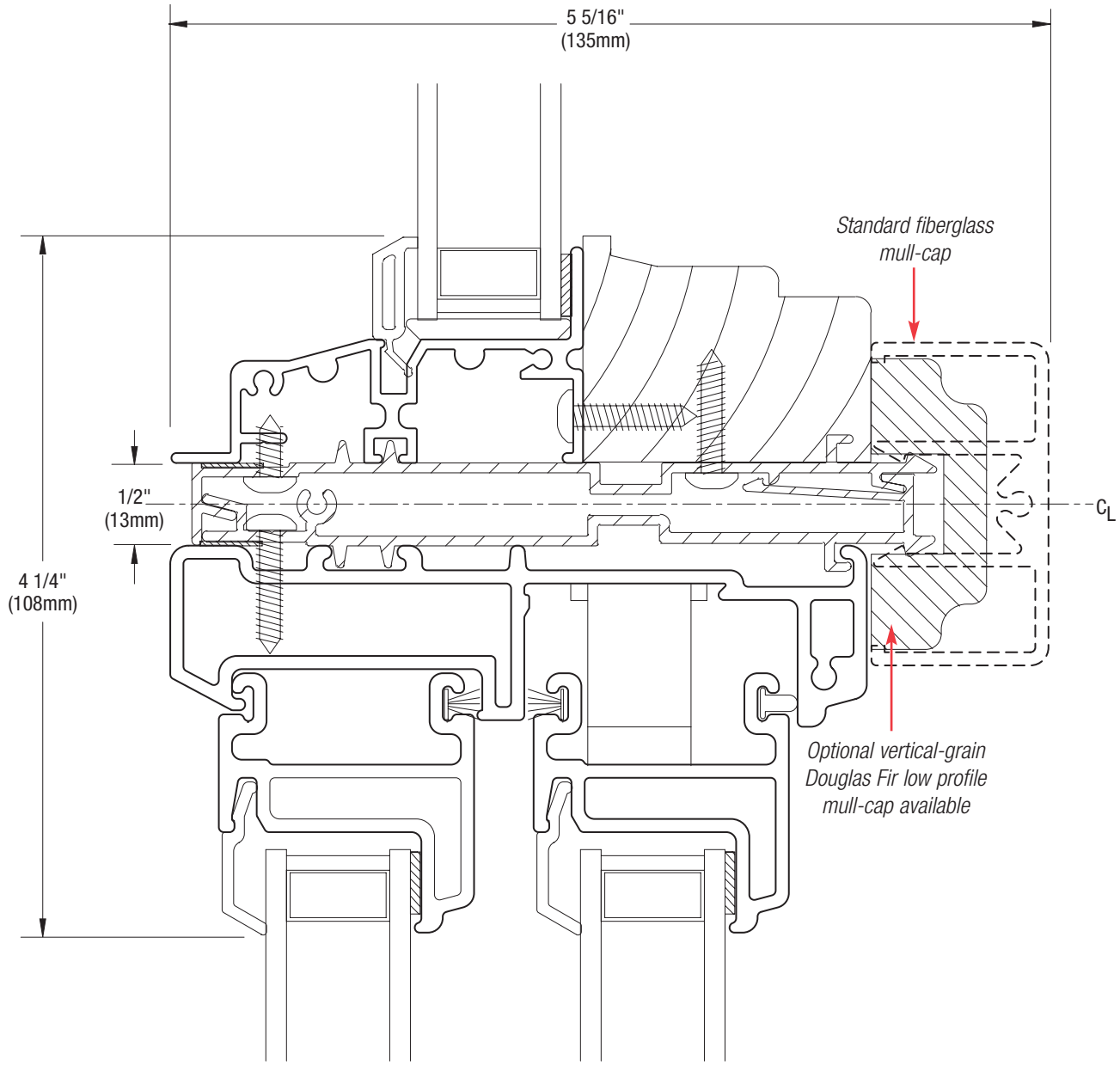
Milgard WINDOWS & DOORS

3000 SERIES FIBERGLASS

Fiberglass Assembly Drawing

3710 Radius Window Mulled to 3110 or 3210 For 4-9/16"Wall

Vertical View



Scale: Actual size

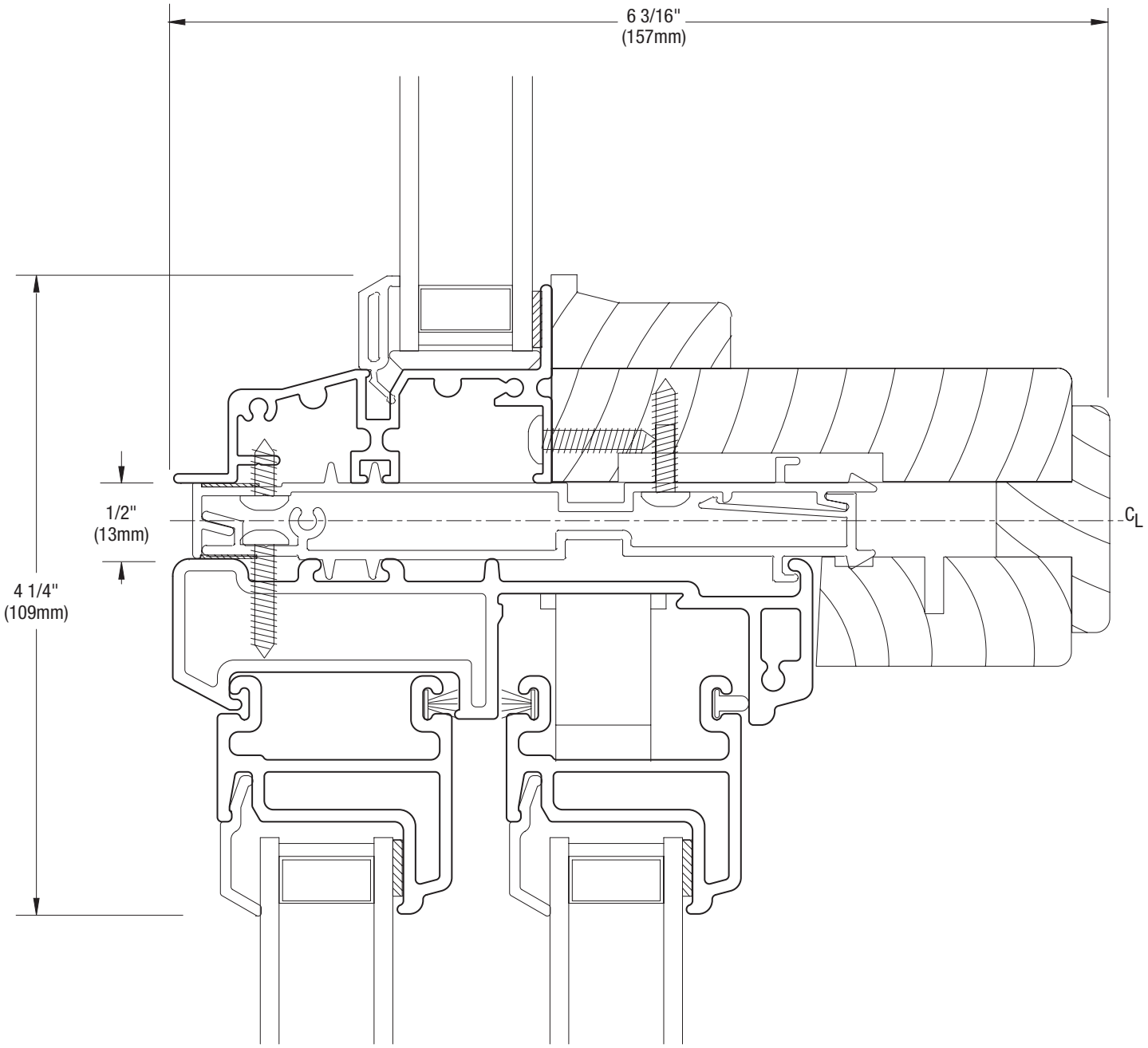
Milgard WINDOWS & DOORS

3000 SERIES FIBERGLASS

Fiberglass Assembly Drawing

3710 Radius Window Mulled to 3110 or 3210 with Liner For 6-9/16"Wall

Vertical View



MULLS-11
FEBRUARY 2009

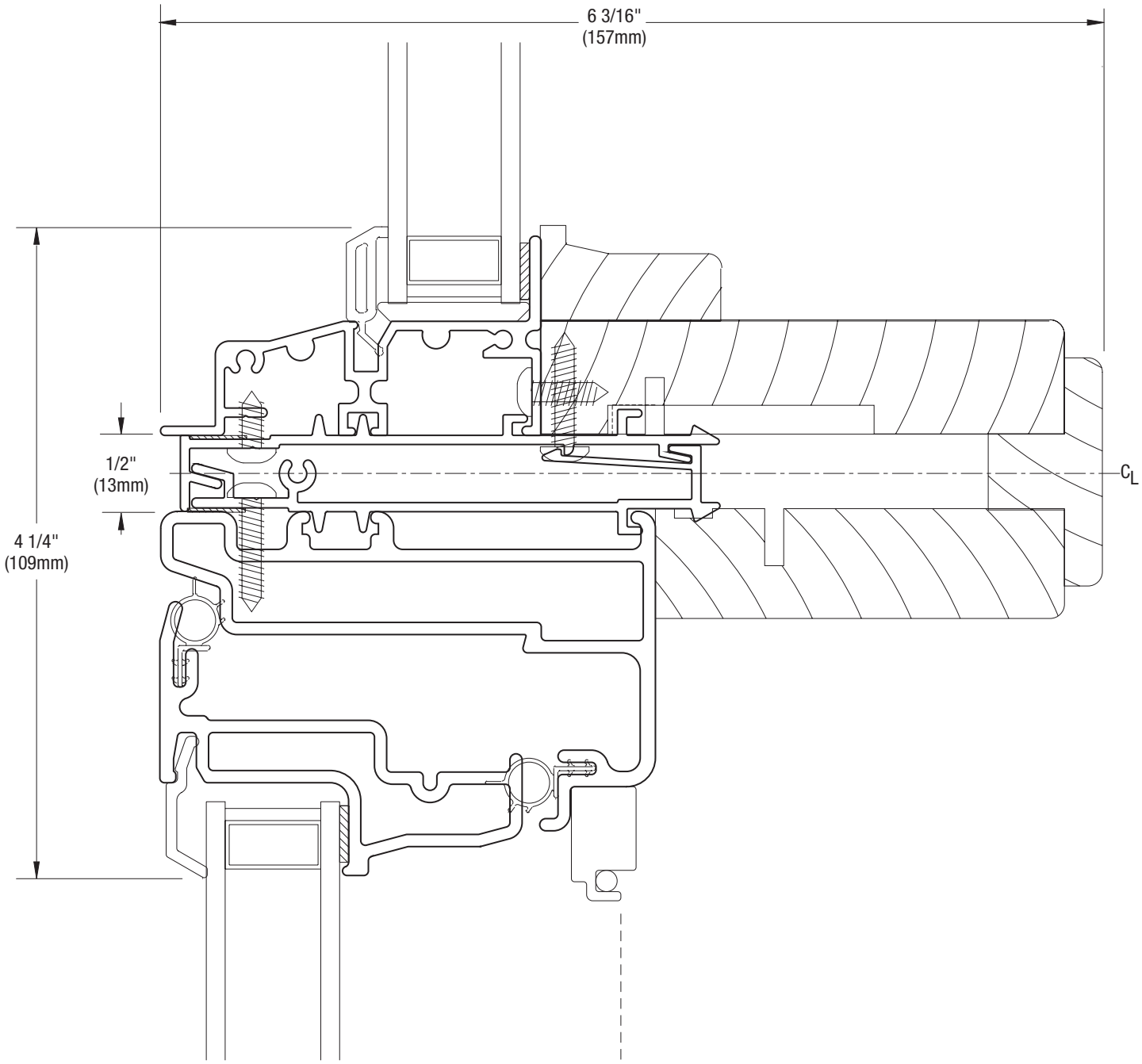
Scale: Actual size

Fiberglass Assembly Drawing

3710 Radius Window Mulled to 3510 with Liner

3000 SERIES FIBERGLASS

Vertical View



Scale: Actual size

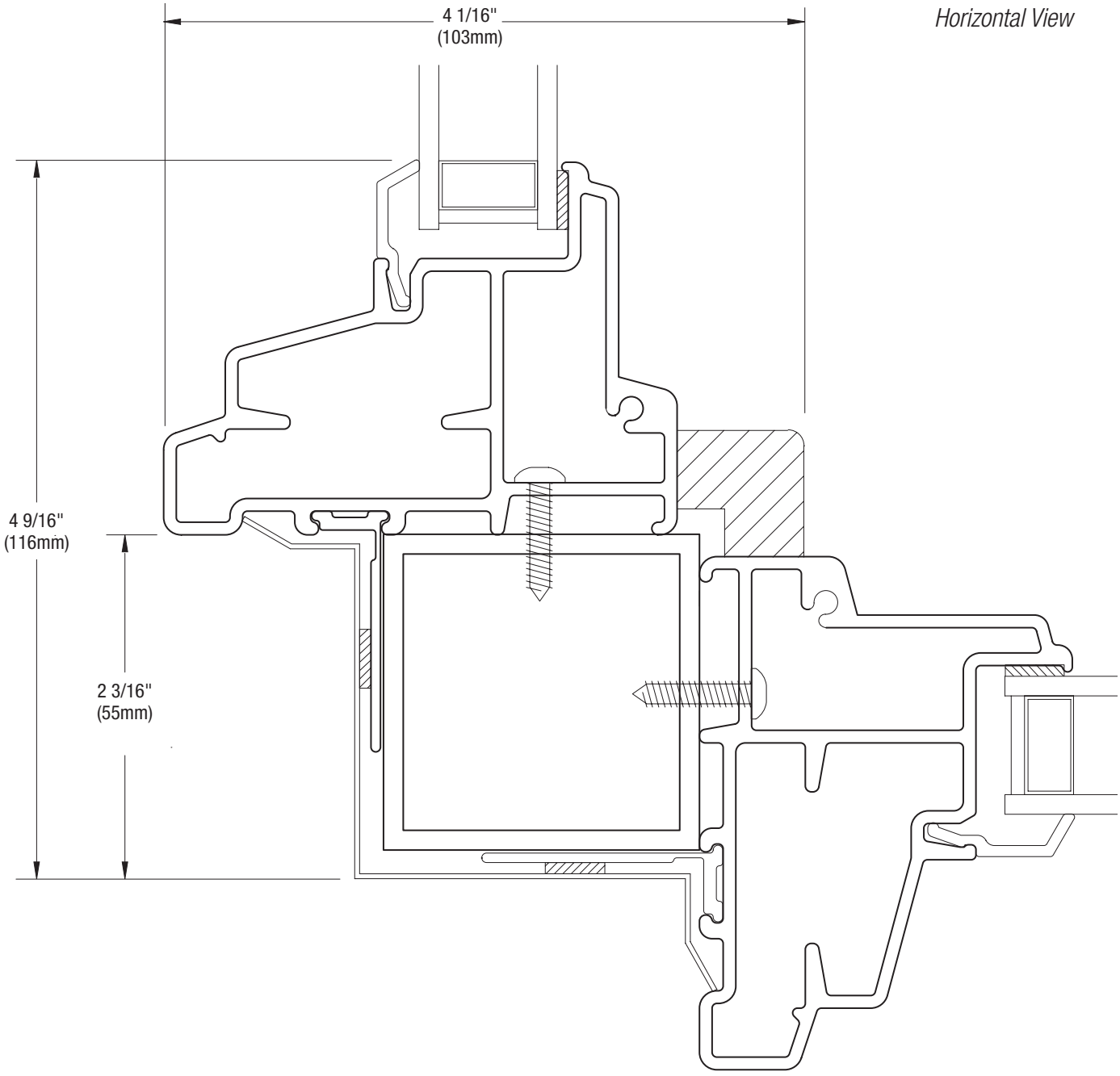
Milgard WINDOWS & DOORS

3000 SERIES FIBERGLASS

Fiberglass Assembly Drawing

3315 Picture Window Corner Mulled to 3315 Picture Window

Horizontal View



Scale: Actual size

MULLS-13
FEBRUARY 2009

Milgard WINDOWS & DOORS

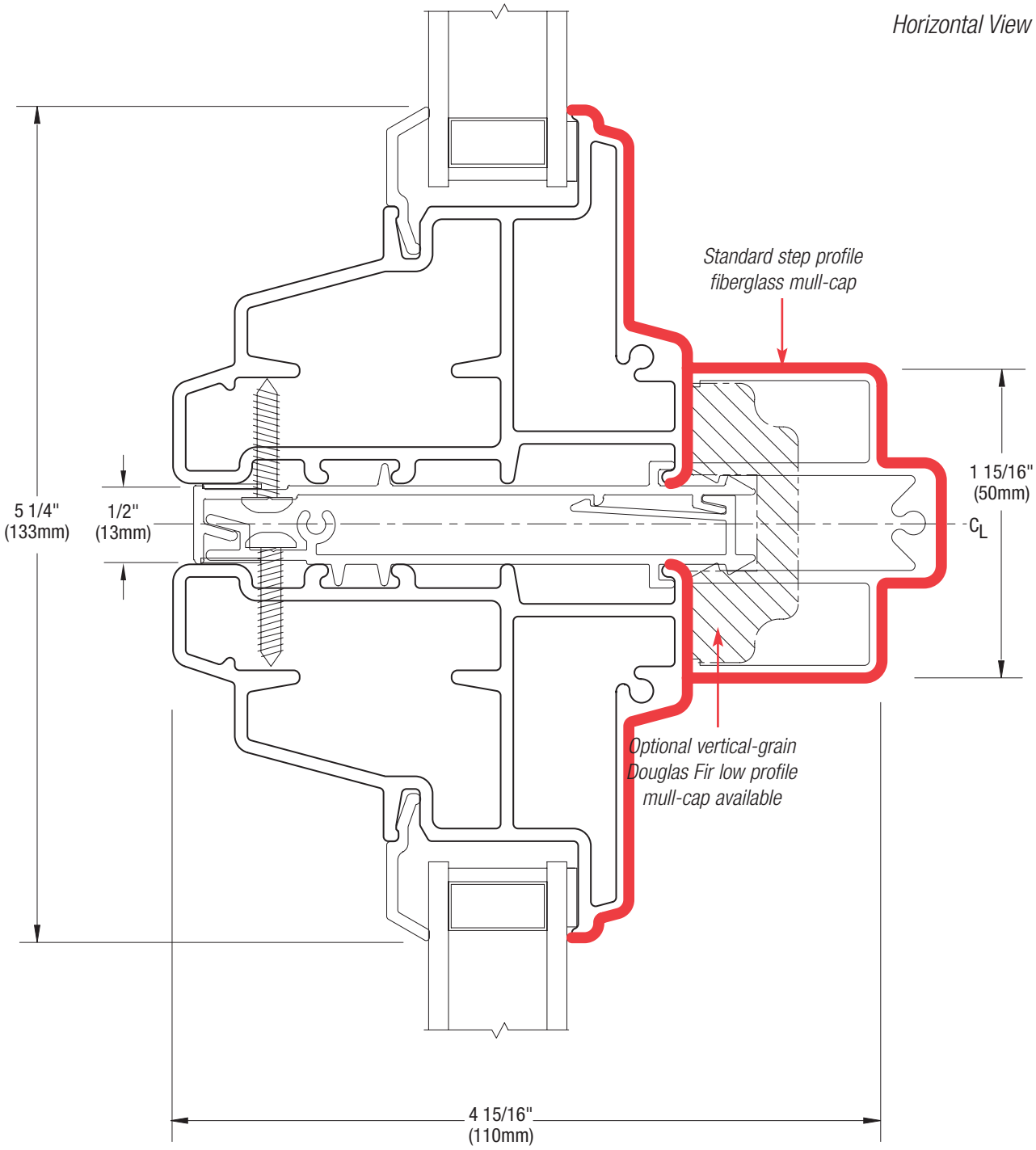
3000 SERIES FIBERGLASS

Fiberglass Assembly Drawing

WoodClad Series

3310 Picture Window Mulled to 3310 Picture Window

Horizontal View



Red indicates wood veneer

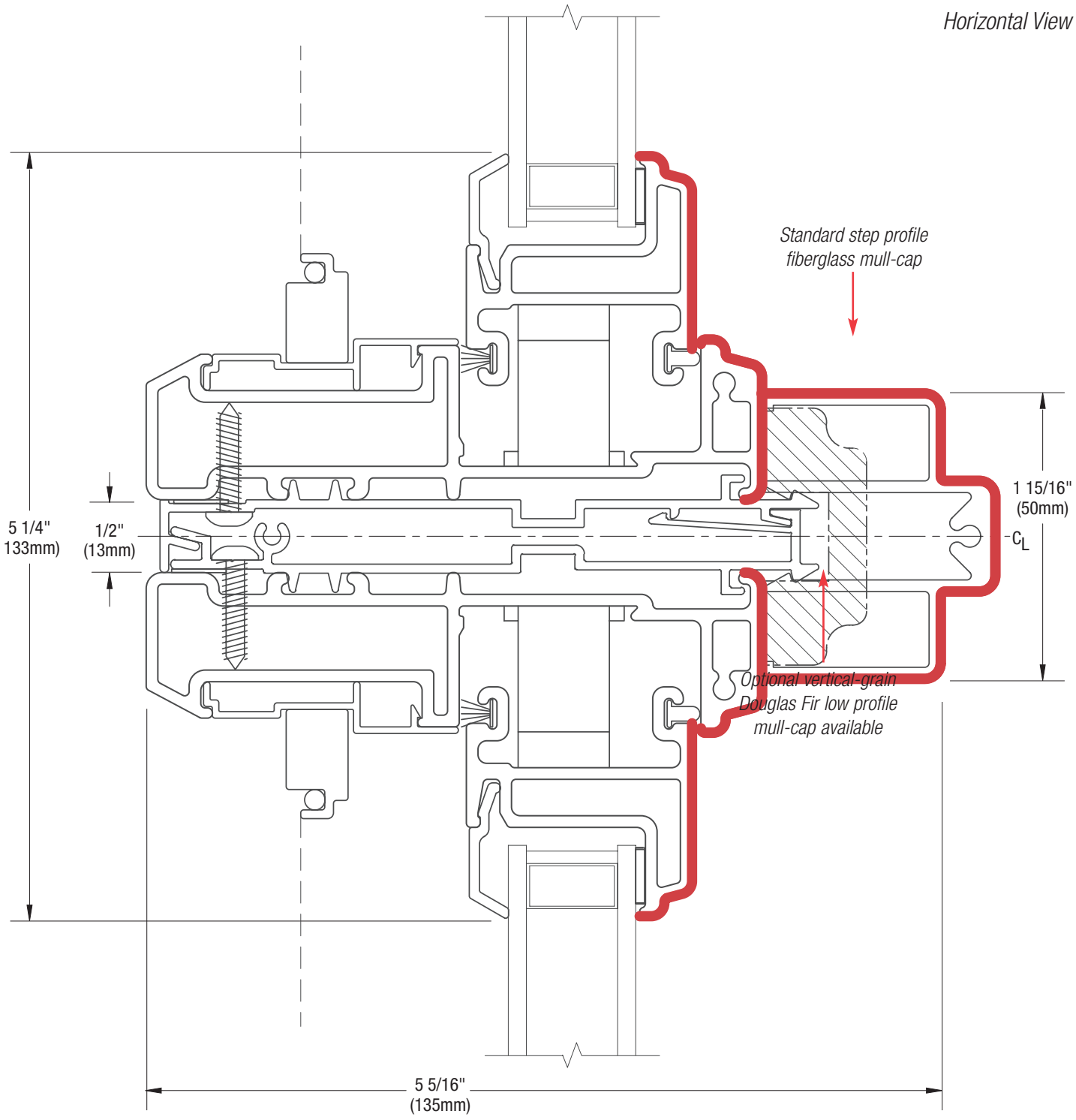
Scale: Actual size

Fiberglass Assembly Drawing

WoodClad Series
3210 Vertical Slider Mulled to 3210 Vertical Slider

3000 SERIES FIBERGLASS

Horizontal View



Red indicates wood veneer

Scale: Actual size

MULLS-15
FEBRUARY 2009

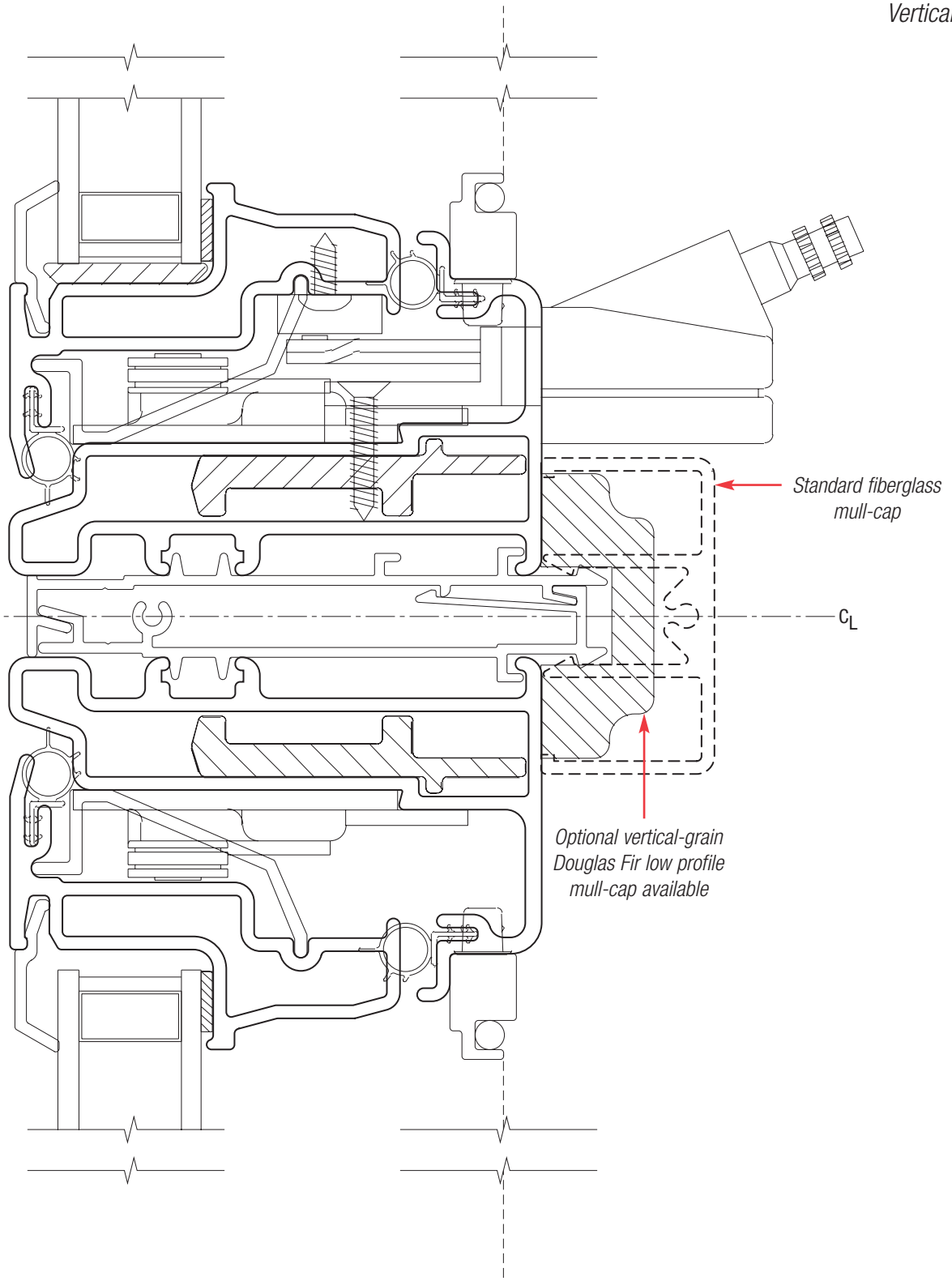
Milgard WINDOWS & DOORS

3000 SERIES FIBERGLASS

Fiberglass Assembly Drawing

3510 Casement Window Mulled to 3510 Casement Window

Vertical View



Scale: Actual size

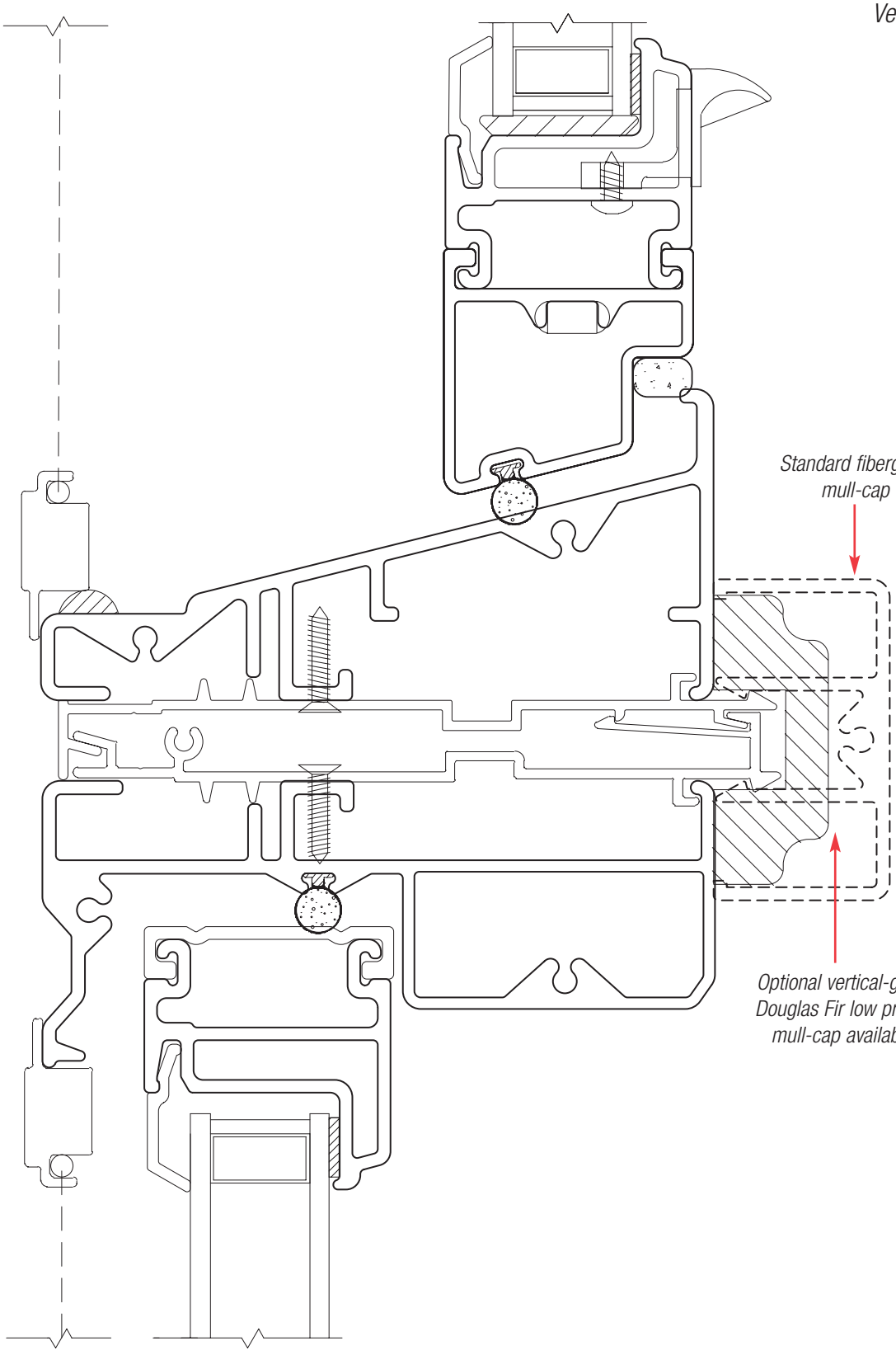
Milgard WINDOWS & DOORS

Fiberglass Assembly Drawing

3245 Double-Hung Mulled to 3245 Double-Hung

3000 SERIES FIBERGLASS

Vertical View



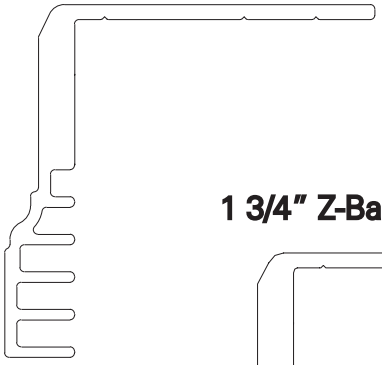
Scale: Actual size

MULLS-17
FEBRUARY 2009

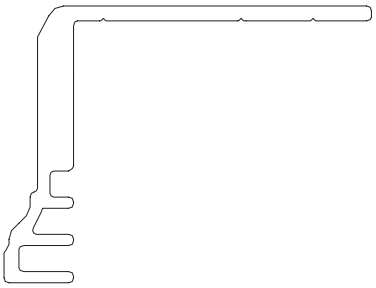
Fiberglass Replacement Windows
Z-Bar and Sloped-Sill Adaptors

3000 SERIES FIBERGLASS

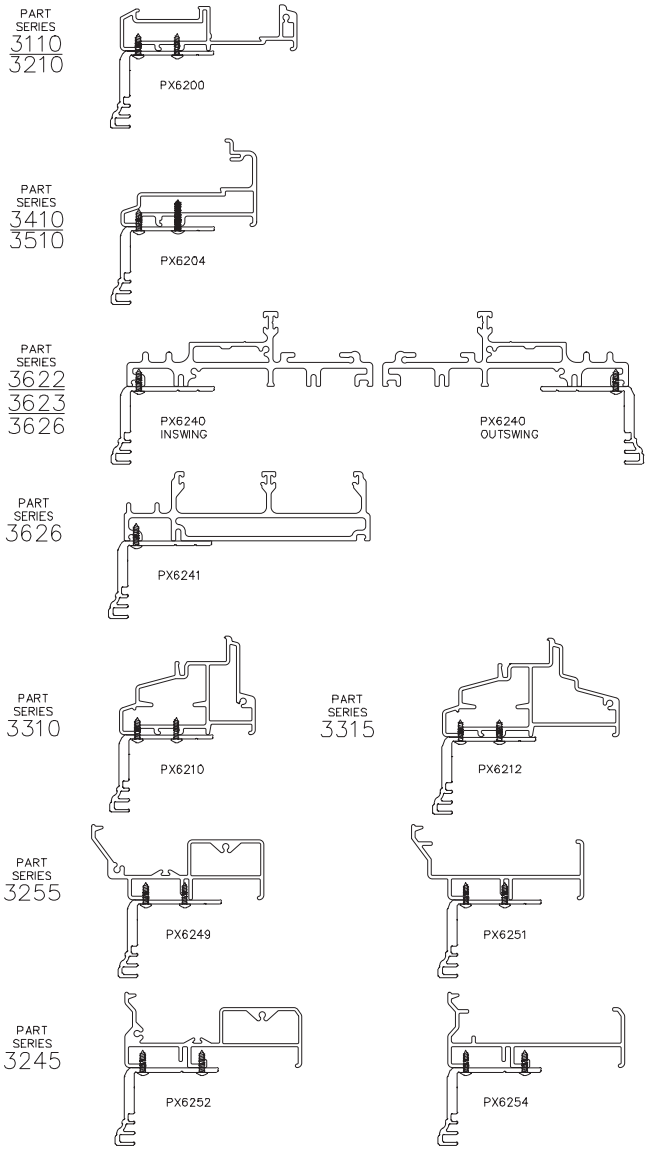
2 1/4" Z-Bar Profile



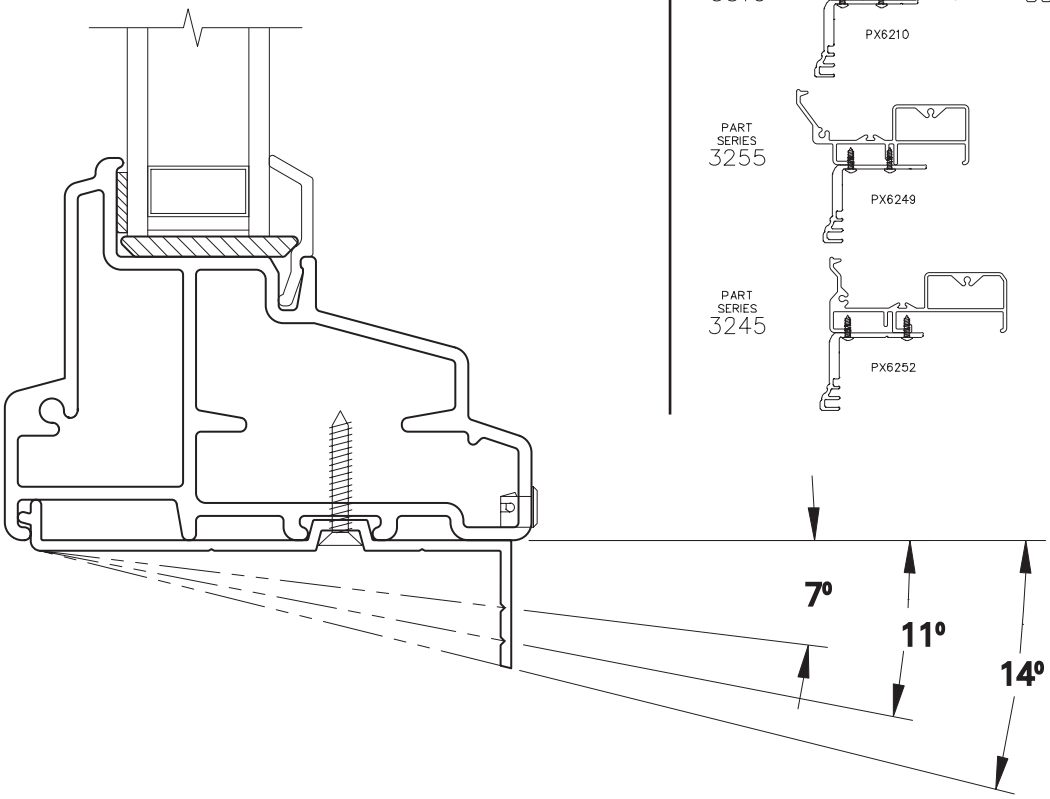
1 3/4" Z-Bar Profile



Application of 1 3/4" Z-Bar to Fiberglass Frames



Sloped-Sill Adapter



Scale: 3" = 1' (1/4 scale)

REPLACEMENT
FEBRUARY 2009

HIGH PERFORMANCE GLASS – MILGARD'S SUNCOAT® & SUNCOATMAX® LOW-E

SunCoat Low-E is a transparent, low-emissivity coating applied to one side of the glass in our dual-pane windows. This microscopically thin coating filters the sun's energy in the summer and reduces heat loss in the winter, making even energy bills look better. Low-E has been a product usually recommended for cold climates. Now with our introduction of SunCoat Low-E glass, you can use this product everywhere, from the heat of Southern Nevada desert to the cold of Chicago and Alaska winters.

You can get even greater thermal performance with the addition of argon gas to our standard, dual-pane, SunCoat Low-E insulating glass. In fact, our vinyl and fiberglass insulated windows have even been recognized by ENERGY STAR® for their exceptional energy-saving qualities in your home.

The Benefits of Milgard SunCoat Low-E Glass Are Clear

- Comes standard on all Milgard windows and doors
- Reduces heat and cooling loads
- Reduces harmful UV rays that fade carpet and furniture up to 86%
- Provides all around comfort, all year long

SunCoatMAX is also a low-emissivity coating, except it has three spectrally selective layers to filter out UV while providing a lower solar heat gain and allowing 66% visible light transmittance. What is more, SunCoatMAX provides the ultimate in fading protection. It blocks 95% of the sun's damaging ultraviolet rays - a leading cause of fading - so your furniture, carpets, curtains and wall coverings stay beautiful for years.

	Solar Heat Gain Coefficient	Ultra Violet Light Transmittance	Winter Heat Loss (U-Factor)
Clear single-pane glass	0.86	71%	1.04
Clear double-pane glass	0.76	56%	0.48
Milgard SunCoat Low-E Glass	0.37 - 0.41*	14 - 16%*	0.30
Milgard SunCoatMAX Low-E Glass	0.27	5%	0.29
		Ultra Violet Light Transmittance	

NOTE: All values calculated using Window 5.2 and represent center of glass properties. (For more information on the window program, see http://windows.lbl.gov/software/default.htm.) All glass is 3mm thick, and 1/2" gap width. These measurements are for comparable purposes only, your values may differ.

* Contact your nearest Milgard location to receive the specific value.

TINTED GLASS

Tinted glass is manufactured by the float glass process, except it has additional additive to give the tint a unique coloration.

Benefits of Tinted Glass:

- Reduces visibility to an interior, adding privacy.
- Absorbs heat to reduce solar heat gain.
- Reduces ultraviolet light damage to interior furnishings.
- Can be tempered.

NOTE: The addition of after-market applied tints or films to Milgard windows and patio doors may cause seal failure or glass breakage, and will void Milgard's Full Lifetime Warranty. For complete warranty details, visit milgard.com

There are various tints available through Milgard to achieve the energy performance or architectural style that is desired. These tints include Solar Bronze, Solar Gray, Graylite, Solex, Evergreen and Azurlite. Please check with your Milgard Representative on availability of these and other tinted products.

REFLECTIVE GLASS

The reflective coating is applied just like Low-E. It is either sprayed through (pyrolitic process) or applied using the vacuum deposition sputtering process, depending on suppliers.

Benefits of Reflective Glass:

- Reflects light and heat with a metal oxide coating giving a mirror effect.
- Minimizes solar heat gain and ultraviolet light damage to interior furnishings.
- Adds daytime privacy.
- Can be tempered.

There are various reflective glass types available through Milgard to achieve the energy performance or architectural style that is desired. These include Solar Cool Bronze and Solar Cool Gray. Please check with your Milgard Representative on availability of these and other reflective products.

NOTE: Heat absorbing and heat reflective glass can only be used on the exterior lite of a glazing unit, to avoid a build-up of heat inside the airspace, which will cause thermal stress cracks or seal failure.

NOTE: Reflective-type glass works with the play of light. Example: During daylights hours you can't see inside a building with reflective glass, you only can see your reflection. At night, the opposite effect occurs. You can see in, but the people inside cannot see out. If you specify this type of glazing in a residential application, suggest that a spotlight be placed outside of the window. It will give the same effect as daylight.

LAMINATED GLASS

Laminated glass is produced by permanently bonding two pieces of glass together with a tough plastic interlayer (polyvinyl butyral) under heat and pressure. Once bonded together, the lite behaves as a single piece. The interlayer is invisible when viewed through the glass; thus, the finished lite is indistinguishable from plain glass.

Most often, laminated glass is produced from annealed glass, but tempered glass can be used when special performance needs are present. The benefit of laminated glass – if it is broken, glass fragments adhere to the plastic interlayer rather than falling free and potentially causing injury. Laminated annealed glass can be cut or drilled.

Laminated glass is required in sloped glazing applications (such as skylights), that exceed any of the following conditions:

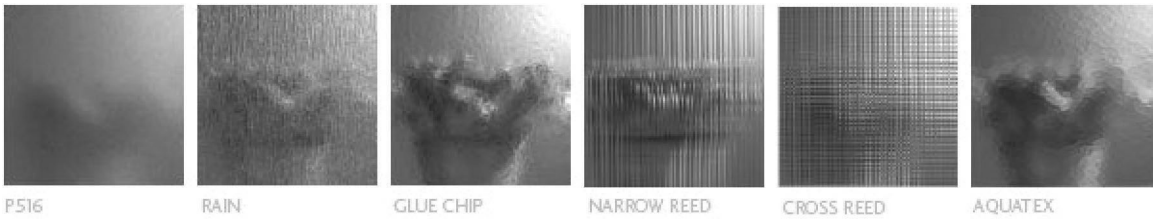
- The area of each pane (single glass) or unit (insulating glass) exceeds 16 square feet.
- The highest point of the glass is greater than 12 feet above any walking surface or other accessible area.
- The nominal thickness of each pane exceeds 3/16".

Noise Reduction Benefits:

- Laminated glass is highly effective in reducing noise, thus reducing Sound Transmission Ratings. The damping characteristics of the plastic interlayer combines with the attenuating characteristics of the air space of the insulated glass (IG) unit to maximize sound reduction.
- Example: Two lites of 1/4" laminated glass in an IG unit with a 1/2" air space provides an STC rating of 42. This compares with two pieces of plain 1/4" glass in an IG unit with a 1/2" air space, where the STC rating would be 35.
- Laminated glass eliminates 99.9% of ultraviolet rays, making it highly effective in protecting furnishings, displays, merchandise, etc.
- Standard laminated glass is 7/32" with a .030 (approx. 1/32") polyvinyl butyral interlayer.

OBSCURE GLASS

To add privacy where window coverings are impractical or undesireable, we recommend obscure glass. Our obscure glass can be tempered for safety and is available in numerous styles, some of which are shown below.



Benefits of Obscure Glass:

- Adds privacy where window coverings are impractical or undesirable (bathrooms, door sidelites).
- Various colors and texture patterns provide a translucent, semi-opaque effect for unique visual design applications.
- Can be tempered.

Please check with your Milgard Representative on availability of these and other obscure glass products.

GRIDS (DIVIDERS, GBG, MUTTONS, ETC.)

With the right choices in grids, you can really make your windows and doors stand out. Grids are available with all of our window and door product lines. Milgard's Ultra™ and WoodClad™ product lines offer a choice of either flat, sculptured or simulated divided lite (SDL) grid options.

Grids Between the Glass:


5/8" Flat grid


1 1/16' Sculptured grid

Simulated Divided Lites:


Vintage Grids


Craftsman Grids

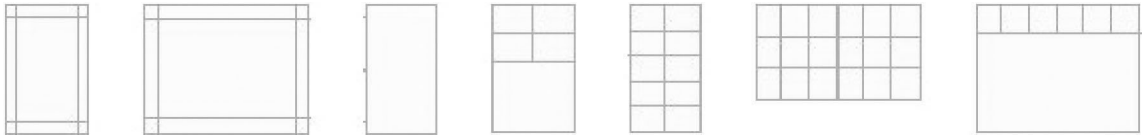

Legacy Grids

Milgard Architectural Manual
Glazing Section

3000 SERIES FIBERGLASS

Multiple grid configurations allow nearly endless options to customize your home design. By simply altering the grid design, you can dramatically impact the home's curb appeal. Below are just a few of the many possible grid configurations.

Please check with your Milgard Representative on availability of these and other grid patterns.



INERT GAS

Optional Argon gas, inserted between the panes of glass, is also available to improve thermal performance. Argon gas is heavier than air and is a good thermal insulator because it reduces the amount of heat that can pass through the glazing of a window.

INSULATED GLASS SPACER

The standard insulated glass spacer used in the Ultra™ and WoodClad™ window series is the EdgeGardMAX™ warm edge spacer system. Milgard's EdgeGardMAX spacer is state of the art utilizing an all-foam design. Because of the all-foam design, the energy performance of the windows and doors increases substantially allowing these products to meet ENERGY STAR® requirements

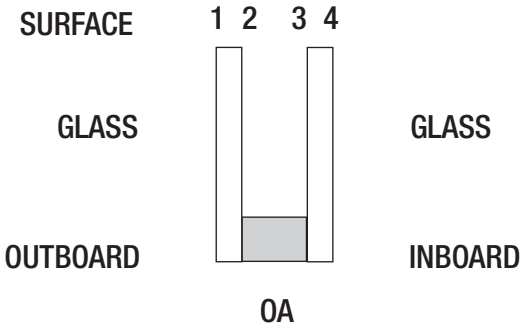
BASIC GLASS DEFINITIONS

Lite: Single piece of glass

SS: Single strength glass, 3/32" thickness

DS: Double strength glass, 1/8" thickness

IG Unit: Two or more pieces of glass separated by a hermetically (air-tight) sealed airspace, forming a construction that reduces heat transfer for improved thermal performance.



O.A.: The thickness, overall, of an insulated unit of glass, including both pieces of glass and the spacer bar.

GLASS LIMITATIONS

Up to 12 sq ft:	SS glass (3/32" thick)
From 12 to 25 sq ft:	DS glass (1/8" thick)
From 25 to 40 sq ft:	3/16" glass
Over 40 sq ft:	1/4" glass

R-VALUE vs. U-FACTOR:

R-value: Measures the insulation effectiveness of a window – its resistance to heat gain or loss. The higher the r-value, the better the insulation against heat and cold.

U-factor: Measures the heat gain or loss caused by differences in indoor and outdoor temperatures. The lower the u-factor, the slower the rate of heat flow, thus the better the insulating performance.

Fiberglass Products - Performance Ratings

Window Type	Series	AAMA Label		Min		Max		Structural Class	Wind Speed	Air Infiltration	Egress Calc. Min. Egress
		Silver	Gold	Width	Height	Width	Height				
Horizontal Slider 6060 XO	**3110**							**HS-C35**	**118**	**.12**	**1/2AWW - 3 5/8" AWH - 2 3/16"**
Horizontal Slider 12060 XOX	**3110**							**HS-R20**	**100**	**.12**	**AVS - 3 5/8" AWH - 2 3/16"**
Half Vent		X		2 0	1 4	6 0	6 0				4036
Double Vent (max VS = 48")		X		5 0	1 4	12 0	6 0				2036 vent
Half Vent Below / Above (mulled)		X		2 0	2 4	6 0	6 0				2036 vent
Double Vent Below / Above (mulled)		X		5 0	2 4	10 0	6 0				2036 vent
Single Hung 4978 O/X	**3210**							**H-C30**	**110**	**.13**	**AWW - 2 3/16" BARSET - 3 7/8"**
Single Hung		X		1 6	2 6	4 0	7 6				3050
Double Single Hung (mulled)		X		3 0	2 6	8 0	7 6				6050
Triple Single Hung (mulled)		X		4 6	2 6	9 0	7 6				3050 vent
Double Hung net 44" x 75" X/X	3275	X		1 6	2 9	4 0	7 0	C-35	118	.16	AWW - 4 7/16" Barset - 5 1/2"
Double Hung 4070 X/X		X		1 6	2 9	4 0	7 0	LC-40	127	.16	
Double Double Hung (mulled)		X		3 6	2 9	8 0	7 0	LC-40	127	.16	
Triple Double Hung (mulled)		X		5 3	2 9	12 0	7 0	LC-40	127	.16	
Double Hung net 44" x 75" X/X	3385	X		1 6	2 9	4 0	7 0	C-35	118	.16	AWW - 4 7/16" Barset - 5 1/2"
Double Hung 4070 X/X		X		1 6	2 9	4 0	7 0	LC-40	127	.16	
Double Double Hung (mulled)		X		3 6	2 9	8 0	7 0	LC-40	127	.16	
Triple Double Hung (mulled)		X		5 3	2 9	12 0	7 0	LC-40	127	.16	
Picture Window 8060	**3310**							**F-HC50**	**141**	**.01**	**N/A**
Picture Window 8060	**3315**							**F-HC50**	**141**	**.01**	**N/A**
Picture Window		X		1 0	1 0	8 0	6 0				N/A
Octagon		X		2 0	2 0	6 0	6 0				N/A
Radius 8060	**3710**							**F-HC40**	**127**	**.01**	**N/A**
Full Round			X	2 0	2 0	6 0	6 0				N/A
1/2 Round			X	2 0	1 0	8 0	4 0				N/A
1/4 Round			X	1 0	1 0	6 0	6 0				N/A
Awning 5030 X	**3410**							**AP-C35**	**127**	**.07**	**N/A**
Full Awning		X		1 7	1 6	5 0	3 0				N/A
Double Awning (mulled)		X		3 2	1 6	10 0	3 0				N/A

(continued on next page)

Window Type	Series	AAMA Label		Min		Max		Structural Class	Wind Speed	Air Infiltration	Egress Calc. Min. Egress
		Silver	Gold	Width	Height	Width	Height				
Casement	**3510**							**C-C35**	**127**	**.10**	**AWW - 9" AWH - 4 1/4"**
Full Casement		X		1 6	2 0	3 0	5 0				2640
Full Casement		X		1 6	2 0	2 6	6 0				2640
Double Casement (mulled)		X		3 0	2 0	6 0	5 0				5040
French Door Out Swing 8080 XX	**3623**							**HGD-C30**	**110**	**.08**	**N/A**
French Door Out Swing 16080 OXXO	**3623**							**HGD-R15**	**78**	**.08**	**N/A**
1 - Panel Outswing French Door		X		1 6	6 0	3 0	8 0				N/A
2 - Panel Outswing French Door		X		5 0	6 0	6 0	8 0				N/A
3 - Panel Outswing French Door				4 6	6 0	9 0	8 0				N/A
4 - Panel Outswing French Door				6 0	6 0	12 0	8 0				N/A
Sliding Glass Door 8080 OX / XO	**3626**							**SGD-C30**	**110**	**.23**	**N/A**
SGD OX / XO		X		5 0	6 8	8 0	8 0				N/A
Sliding Glass Door 12080 OXO	**3626**							**SGD-C30**	**110**	**.14**	**N/A**
SGD OXO		X		7 6	6 8	12 0	8 0				N/A
Sliding Glass Door 12080 OOX	**3626**							**SGD-C30**	**110**	**.12**	**N/A**
SGD OOX		X		7 6	6 8	12 0	8 0				N/A
Sliding Glass Door 12080 OXXO	**3626**							**SGD-R20**	**90**	**.18**	**N/A**
SGD OXXO		X		10 0	6 8	12 0	8 0				N/A
French Door In-Swing	**3642/3662**										

Minimum angle for all non 90's is 30 degrees.

Location specific U-Values will be maintained by locations.
Barsets are considered nominal for egress calculations.

Data as of January 21, 2009. All test data is subject to change without prior notification.
For the most up to date information, please contact your Milgard Sales Rep.

NFRC Certified U-Factors for Fiberglass Products

Aluminum Box - EdgeGard™

Window Series	Window Type	CLR / CLR		SUNCOAT / CLR		SUNCOAT MAX / CLR	
		AIR	ARGON	AIR	ARGON	AIR	ARGON
3110	Slider	0.50	0.48	0.37	0.34	0.37	0.33
3210	Single Hung	0.49	0.47	0.36	0.33	0.36	0.33
3275	Double Hung (new construction)	0.49	0.48	0.38	0.35	0.38	0.34
3285	Double Hung (replacement)	0.49	0.48	0.38	0.35	0.37	0.34
3310	Picture Window	0.48	0.46	0.35	0.31	0.34	0.30
3315	Picture Window (wide)	0.49	0.47	0.36	0.32	0.35	0.31
3410	Awning	0.50	0.49	0.38	0.35	0.38	0.34
3510	Casement	0.50	0.48	0.38	0.35	0.38	0.35
3621	French Door	0.46	0.45	0.37	0.34	0.36	0.34
3622	French Inswing	0.48	0.46	0.38	0.35	0.38	0.35
3623	French Outswing	0.48	0.46	0.38	0.35	0.38	0.35
3626	French SGD	0.49	0.48	0.39	0.36	0.39	0.36
3710	Radius Window	0.52	0.50	0.37	0.33	0.37	0.33

Values are based on SS/SS & DS/DS glass.
Grids can affect U-factor when OA is less than 1". Please refer to entered quote / order for accurate values when using grids.

Test Values as of December 24, 2008. All test data is subject to change without prior notification.
For the most up to date information, please contact your Milgard Sales Rep.

NFRC Certified U-Factors for Fiberglass Products

Warm Edge - EdgegardMAX™

Window Series	Window Type	SUNCOAT / CLR		SUNCOAT MAX / CLR	
		AIR	ARGON	AIR	ARGON
3110	Slider	0.35	0.31	0.34	0.31
3210	Single Hung	0.35	0.31	0.34	0.30
3275	Double Hung (new construction)	0.36	0.33	0.36	0.33
3285	Double Hung (replacement)	0.36	0.33	0.36	0.33
3310	Picture Window	0.33	0.29	0.32	0.29
3315	Picture Window (wide)	0.34	0.30	0.33	0.29
3410	Awning	0.35	0.32	0.35	0.31
3510	Casement	0.35	0.32	0.35	0.32
3621	French Door	0.35	0.33	0.35	0.33
3622	French Inswing	0.37	0.34	0.36	0.33
3623	French Outswing	0.37	0.34	0.36	0.33
3626	French SGD	0.37	0.35	0.37	0.34
3710	Radius Window	0.37	0.33	0.36	0.32

Values are based on SS/SS & DS/DS glass.
Grids can affect U-factor when OA is less than 1". Please refer to entered quote / order for accurate values when using grids.

Test Values as of December 24, 2008. All test data is subject to change without prior notification.
For the most up to date information, please contact your Milgard Sales Rep.

Solar Heat Gain Coefficients & Visible Light Transmittance

Fiberglass Products

Type	Glazing	SHGC			VT		
		No Grids	Flat Grids	Sculptured Grids	No Grids	Flat Grids	Sculptured Grids
Slider	Clr / Clr	0.63	0.56	0.50	0.67	0.60	0.53
3110	Loe272 / Clr	0.34	0.31	0.28	0.60	0.53	0.47
PSNS	Loe270 / Clr	0.31	0.28	0.25	0.58	0.52	0.46
	Loe240 / Clr	0.21	0.19	0.17	0.33	0.29	0.26
	Loe366 / Clr	0.23	0.21	0.19	0.53	0.47	0.42
	Loe70/ Clr	0.23	0.21	0.19	0.53	0.47	0.42
Single Hung	Clr / Clr	0.53	0.47	0.41	0.56	0.50	0.44
3210	Loe272 / Clr	0.29	0.26	0.23	0.50	0.44	0.39
PSNS	Loe270 / Clr	0.26	0.23	0.21	0.49	0.43	0.38
	Loe240 / Clr	0.18	0.16	0.14	0.27	0.24	0.21
	Loe366 / Clr	0.20	0.18	0.16	0.44	0.39	0.35
	Loe70/ Clr	0.19	0.17	0.16	0.45	0.39	0.35
Double Hung	Clr / Clr	0.53	0.47	0.41	0.56	0.50	0.44
3275 (new construction)	Loe272 / Clr	0.29	0.26	0.23	0.50	0.44	0.39
PSNS	Loe270 / Clr	0.26	0.23	0.21	0.49	0.43	0.38
	Loe240 / Clr	0.18	0.16	0.14	0.27	0.24	0.21
	Loe366 / Clr	0.20	0.18	0.16	0.44	0.39	0.35
	Loe70/ Clr	0.19	0.17	0.16	0.45	0.39	0.35
Double Hung	Clr / Clr	0.53	0.47	0.41	0.56	0.50	0.44
3285 (replacement)	Loe272 / Clr	0.29	0.26	0.23	0.50	0.44	0.39
PSNS	Loe270 / Clr	0.26	0.23	0.21	0.49	0.43	0.38
	Loe240 / Clr	0.18	0.16	0.14	0.28	0.24	0.21
	Loe366 / Clr	0.20	0.18	0.16	0.45	0.39	0.35
	Loe70/ Clr	0.20	0.18	0.16	0.45	0.39	0.35
Fixed	Clr / Clr	0.63	0.56	0.50	0.67	0.60	0.53
3310	Loe272 / Clr	0.34	0.31	0.28	0.60	0.53	0.47
PSNS	Loe270 / Clr	0.31	0.28	0.25	0.58	0.52	0.46
	Loe240 / Clr	0.21	0.19	0.17	0.33	0.29	0.26
	Loe366 / Clr	0.23	0.21	0.19	0.53	0.47	0.42
	Loe70/ Clr	0.23	0.21	0.19	0.53	0.47	0.42
Fixed	Clr / Clr	0.63	0.56	0.50	0.67	0.60	0.53
3315	Loe272 / Clr	0.34	0.31	0.27	0.59	0.53	0.47
PSNS	Loe270 / Clr	0.31	0.28	0.25	0.58	0.52	0.46
	Loe240 / Clr	0.21	0.19	0.17	0.33	0.29	0.26
	Loe366 / Clr	0.23	0.21	0.19	0.53	0.47	0.42
	Loe70/ Clr	0.23	0.21	0.19	0.53	0.47	0.42

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Awning	Clr / Clr	0.56	0.51	0.46	0.59	0.54	0.49
3410	Loe272 / Clr	0.30	0.28	0.25	0.53	0.48	0.43
PSNS	Loe270 / Clr	0.28	0.25	0.23	0.51	0.47	0.42
	Loe240 / Clr	0.19	0.17	0.16	0.29	0.26	0.24
	Loe366 / Clr	0.21	0.19	0.18	0.47	0.42	0.38
	Loe70/ Clr	0.21	0.19	0.17	0.47	0.43	0.38
Casement	Clr / Clr	0.56	0.51	0.46	0.59	0.54	0.49
3510	Loe272 / Clr	0.31	0.28	0.25	0.53	0.48	0.43
PSNS	Loe270 / Clr	0.28	0.25	0.23	0.51	0.47	0.42
	Loe240 / Clr	0.19	0.17	0.16	0.29	0.26	0.24
	Loe366 / Clr	0.21	0.19	0.18	0.47	0.42	0.38
	Loe70/ Clr	0.21	0.19	0.17	0.47	0.43	0.38
Door	Clr / Clr	0.48	0.41	0.35	0.51	0.44	0.37
3626	Loe272 / Clr	0.27	0.23	0.20	0.45	0.39	0.33
PSNS	Loe270 / Clr	0.24	0.21	0.18	0.44	0.38	0.32
	Loe240 / Clr	0.17	0.15	0.13	0.25	0.21	0.18
	Loe366 / Clr	0.19	0.16	0.14	0.40	0.34	0.29
	Loe70/ Clr	0.18	0.16	0.14	0.40	0.34	0.29
French Door	Clr / Clr	0.44	0.38	0.32	0.46	0.40	0.34
3621	Loe272 / Clr	0.24	0.21	0.18	0.41	0.35	0.30
WSNT	Loe270 / Clr	0.22	0.19	0.16	0.40	0.34	0.29
	Loe240 / Clr	0.15	0.13	0.11	0.23	0.19	0.16
	Loe366 / Clr	0.17	0.14	0.13	0.37	0.31	0.26
	Loe70/ Clr	0.16	0.14	0.12	0.37	0.31	0.27
French Door	Clr / Clr	0.46	0.39	0.33	0.48	0.41	0.35
3622 / 3623	Loe272 / Clr	0.25	0.22	0.19	0.43	0.37	0.31
PSWS PSUL	Loe270 / Clr	0.23	0.20	0.17	0.42	0.36	0.30
	Loe240 / Clr	0.16	0.14	0.12	0.24	0.20	0.17
	Loe366 / Clr	0.18	0.16	0.13	0.38	0.33	0.28
	Loe70/ Clr	0.17	0.15	0.13	0.38	0.33	0.28

Test Values as of July 28, 2008. All test data is subject to change without prior notification.
For the most up to date information, please contact your Milgard Sales Rep.

Fiberglass Products Sound Transmission Class

Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3110	HV	71.75 x 47.75	4/22/1999	99-167	Mar-32	Mar-32	-	28	28	22
3110	HV	71.5 x 47.5	10/30/1998	98-379	8-Jan	8-Jan	-	29	30	23
3110	HV	71.75 x 47.75	4/22/1999	99-168	4-Jan	8-Jan	-	33	34	28
3110	HV	71.75 x 47.75	4/22/1999	99-170	16-Mar	8-Jan	-	33	33	27
3110	HV	71.5 x 47.5	10/30/1998	98-378	8-Jan	7/32 LAM	-	35	34	28
3110	HV	71.75 x 47.75	4/22/1999	99-169	7/32 LAM	16-Mar	-	36	36	29
Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3210	SH	47.5 x 71.5	10/27/1998	98-364	8-Jan	8-Jan	-	28	28	22
3210	SH	47.75 X 71.75	5/19/1999	99-204	16-Mar	8-Jan	-	33	24	27
3210	SH	47.75 X 71.75	5/19/1999	99-205	4-Jan	8-Jan	-	33	34	28
3210	SH	47.75 X 71.75	5/19/1999	99-206	7/32 LAM	8-Jan	-	34	35	28
3210	SH	47.75 X 71.75	5/20/1999	99-212	7/32 LAM	16-Mar	-	34	34	28
Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3285	DH	47.5 X 71.5	7/10/2007	07-427	4-Jan	8-Jan	-	28	29	24
3285	DH	47.5 X 71.5	7/10/2007	07-429	4-Jan	16-Mar	-	29	30	24
3285	DH	47.5 X 71.5	7/10/2007	07-428	16-Mar	8-Jan	-	30	31	25
Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3310	PW	71.75 x 47.75	4/22/1999	99-164	Mar-32	Mar-32	-	27	28	23
3310	PW	71.5 x 47.5	10/29/1998	98-373	8-Jan	8-Jan	-	28	30	24
3310	PW	71.75 x 47.75	4/22/1999	99-165	8-Jan	Mar-32	-	30	30	24
3310	PW	71.75 x 47.75	4/22/1999	99-163	16-Mar	8-Jan	-	32	31	26
3310	PW	71.75 x 47.75	4/22/1999	99-162	4-Jan	8-Jan	-	33	33	27
3310	PW	71.5 x 47.5	10/29/1998	98-372	8-Jan	7/32 LAM	-	34	34	28
3310	PW	71.75 x 47.75	4/22/1999	99-166	7/32 LAM	16-Mar	-	35	35	29
Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3710	RAD	71.5 x 47.5	9/5/2006	06-329	8-Jan	8-Jan	-	29	29	23
3710	RAD	71.5 x 47.5	9/5/2006	06-333	16-Mar	16-Mar	-	29	30	24
3710	RAD	71.5 x 47.5	9/5/2006	06-332	16-Mar	8-Jan	-	32	31	25
3710	RAD	71.5 x 47.5	9/8/2006	06-350	7/32 LAM	8-Jan	-	33	33	27
3710	RAD	71.5 x 47.5	9/8/2006	06-351	4-Jan	8-Jan	-	34	34	28
3710	RAD	71.5 x 47.5	9/5/2006	06-331	7/32 LAM	16-Mar	-	35	35	28
3710	RAD	71.5 x 47.5	9/5/2006	06-330	7/32 LAM	7/32 LAM	-	36	35	28
Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3510	FC	35.5 x 59.5	10/26/1999	98-360	8-Jan	8-Jan	-	28	30	23
3510	FC	35.5 x 59.5	10/7/2004	04-469	16-Mar	8-Jan	-	34	35	28
3510	FC	35.5 x 59.5	10/7/2004	04-470	4-Jan	8-Jan	-	36	35	28
3510	FC	35.5 x 59.5	10/26/1998	98-359	8-Jan	7/32 LAM	-	36	36	29
Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3621	FD-S	35.5 x 79.5	4/9/2002	02-189	8-Jan	8-Jan	-	32	32	26
3621	FD-S	35.5 x 79.5	4/9/2002	02-194	16-Mar	16-Mar	-	33	35	28
3621	FD-S	35.5 x 79.5	4/9/2002	02-190	16-Mar	8-Jan	-	34	35	29
3621	FD-S	35.5 x 79.5	4/9/2002	02-191	7/32 LAM	16-Mar	-	34	36	29
3621	FD-S	35.5 x 79.5	4/9/2002	02-193	Jul-32	8-Jan	-	34	36	30
3621	FD-S	35.5 x 79.5	4/9/2002	02-197	4-Jan	4-Jan	-	34	36	29
3621	FD-S	35.5 x 79.5	4/9/2002	02-195	7/32 LAM	7/32 LAM	-	35	37	30
3621	FD-S	35.5 x 79.5	4/9/2002	02-196	Jul-32	4-Jan	-	35	37	29

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Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3621	FD-D	71.5 x 79.5	4/9/2002	02-198	8-Jan	8-Jan	-	31	32	25
3621	FD-D	71.5 x 79.5	4/10/2002	02-199	4-Jan	4-Jan	-	33	35	28
3621	FD-D	71.5 x 79.5	4/11/2002	02-205	16-Mar	16-Mar	-	33	34	27
3621	FD-D	71.5 x 79.5	4/10/2002	02-202	16-Mar	8-Jan	-	34	36	29
3621	FD-D	71.5 x 79.5	4/11/2002	02-206	7/32 LAM	4-Jan	-	34	35	28
3621	FD-D	71.5 x 79.5	4/10/2002	02-200	7/32 LAM	7/32 LAM	-	35	37	29
3621	FD-D	71.5 x 79.5	4/11/2002	02-203	Jul-32	8-Jan	-	35	36	29
3621	FD-D	71.5 x 79.5	4/11/2002	02-204	7/32 LAM	16-Mar	-	35	36	29
Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3622	FDIS	71.5 x 79.5	3/15/2004	04-211	8-Jan	8-Jan	-	30	31	25
3622	FDIS	71.5 x 79.5	3/16/2004	04-212	16-Mar	8-Jan	-	31	33	26
3622	FDIS	71.5 x 79.5	3/16/2004	04-214	16-Mar	16-Mar	-	31	32	26
3622	FDIS	71.5 x 79.5	3/16/2004	04-213	4-Jan	8-Jan	-	32	33	26
3622	FDIS	71.5 x 79.5	3/17/2004	04-217	7/32 LAM	8-Jan	-	33	34	28
3622	FDIS	71.5 x 79.5	3/16/2004	04-216	7/32 LAM	7/32 LAM	-	33	35	28
3622	FDIS	71.5 x 79.5	4/13/2004	04-252	7/32 E-LAM	8-Jan	-	34	35	28
3622	FDIS	71.5 x 79.5	38090	04-253	7/32 E-LAM	7/32 E-LAM	-	36	38	32
Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3623	FDOS	71.5 x 79.5	3/17/2004	04-218	8-Jan	8-Jan	-	31	32	25
3623	FDOS	71.5 x 79.5	3/17/2004	04-221	16-Mar	16-Mar	-	31	32	25
3623	FDOS	71.5 x 79.5	3/17/2004	04-220	4-Jan	8-Jan	-	32	33	26
3623	FDOS	71.5 x 79.5	3/17/2004	04-222	7/32 LAM	8-Jan	-	32	34	27
3623	FDOS	71.5 X 79.5	3/17/2004	04-223	7/32 LAM	7/32 LAM	-	32	34	28
3623	FDOS	71.5 X 79.5	3/17/2004	04-219	16-Mar	8-Jan	-	33	34	27
3623	FDOS	71.5 X 79.5	4/13/2004	04-251	7/32 E-LAM	8-Jan	-	33	35	28
3623	FDOS	71.5 X 79.5	38090	04-250	7/32 E-LAM	7/32 E-LAM	-	34	36	30
Series	Model	Test Size	Test Date	Test #	Glass 1	Glass 2	Glass 3	STC	EWR	OITC
3626	SD	71.5 X 79.5	9/11/2003	03-357	8-Jan	8-Jan	-	30	31	25
3626	SD	71.5 X 79.5	9/11/2003	03-360	16-Mar	16-Mar	-	31	33	27
3626	SD	71.5 X 79.5	9/11/2003	03-363	16-Mar	8-Jan	-	32	33	27
3626	SD	71.5 X 79.5	9/11/2003	03-358	7/32 LAM	16-Mar	-	32	34	28
3626	SD	71.5 X 79.5	9/11/2003	03-359	7/32 LAM	8-Jan	-	32	33	28
3626	SD	71.5 X 79.5	9/11/2003	03-361	4-Jan	16-Mar	-	32	35	29
3626	SD	71.5 X 79.5	9/11/2003	03-362	7/32 LAM	7/32 LAM	-	34	36	30

Test Values as of listed Test Date. All test data is subject to change without prior notification.
For the most up to date information, please contact your Milgard Sales Rep.