SECTION 08 54 00
FIBERGLASS CLAD EXTERIOR / WOOD INTERIOR INSERT DOUBLE-HUNG WINDOWS

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CSI PRODUCT SPECIFICATION

Specifier note: This CSI product specification is written using the Construction Specifications Institute (CSI) *Manual of Practice (Fifth Edition)*, including *MasterFormat™, SectionFormat™* and *PageFormat™.*

Specifier note: Information contained in this CSI product specification is accurate as of September 2016. Due to ongoing product changes, this information is subject to change. Consult manufacturer for complete product details.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Fiberglass Clad Exterior / Wood Interior Insert Double-Hung Windows with Hardware.
B. Glazing.
C. Accessories.

1.2 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures.
B. Section 01 65 00 – Product Delivery Requirements.
C. Section 01 66 00 – Product Storage and Handling Requirements.
D. Section 06 10 00 – Rough Carpentry.
E. Section 06 20 00 – Finish Carpentry.
F. Section 07 90 00 – Joint Protection.
G. Section 08 80 00 – Glazing.
H. Section 09 90 00 – Painting and Coating.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM):
1. ASTM C1036 - Standard Specification for Flat Glass.
2. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass – Kind HS, Kind FT Coated and Uncoated Glass.
3. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.
4. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
5. ASTM E547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cyclic Static Air Pressure Difference.
6. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
7. ASTM F588 - Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.

B. American Architectural Manufacturers Association/Window and Door Manufacturers Association/Canadian Standards Association (AAMA/WDMA/CSA):
   1. AAMA/WDMA/CSA 101/I.S.2/A440-11/NAFS – North American Fenestration Standard/Specification for Windows, Doors and Skylights.

C. Window and Door Manufacturers Association (WDMA):
   1. WDMA I.S.4-05 - Industry Standard for Water Repellent Preservative Non-Pressure Treatment for Millwork.

D. American Architectural Manufacturers Association (AAMA):
   1. AAMA 623 – Voluntary Specifications, Performance and Test Procedures for Organic Coatings on Fiber-Reinforced Thermoset Profiles.
   2. AAMA 625 – Voluntary Specifications, Performance Requirements and Test Procedures for Superior Performance Organic Coatings on Fiber-Reinforced Thermoset Profiles.

E. National Fenestration Rating Council (NFRC):
   1. NFRC 102 - Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems.
   2. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
   3. NFRC 500 - Procedure for Determining Fenestration Product Condensation Resistance Values.
   4. ENERGY STAR® Compliant Models available.

F. Insulating Glass Certification Council (IGCC).

G. Safety glass tested in accordance with ANSI Z97.1.

H. Screen Manufacturers Association (SMA):
   1. SMA-1201-2002 – Specifications for Insect Screens for Windows, Sliding Doors and Swinging Doors.

I. Federal Specification (FS):
   1. FS L-S-125B - Screen, Insect Non-Metallic.

1.4 PERFORMANCE REQUIREMENTS

Specifier note: Higher test results may be achieved using high performance options and/or smaller sizes. Specific testing is dependent upon size and options. For further information contact your Beechworth Windows territory manager.

A. Design and performance requirements:
   1. Insert Double-hung windows shall comply with AAMA/WDMA/CSA 101/I.S.2/A440-11:
      [LC-PG45 size tested 1118x1969 (44x78) - H (individual)
      [LC-PG45 size tested 2236x1969 (88x78) - H (mull)

   2. Air infiltration shall not exceed 0.30 cfm/ft^2 (1.5 L/s•m^2) when tested at 1.57 psf [75 Pa] according to ASTM E283.

   3. No water penetration when tested at the following pressure according to ASTM E547:
      [LC-PG45-H - 7.52 psf (360 Pa)]

   4. Insert Double-hung windows must withstand the following positive/negative structural test pressure without damage when tested according to ASTM E330:
      [LC-PG45-H - +67.7/-67.7 psf (+3240/-3240 Pa)]

5. Insert Double-hung windows must pass a forced entry resistance test of at least Level 10 to meet requirements set forth in ASTM F588.

1.5 SUBMITTAL PROCEDURES

A. Shop drawings: submit shop drawings according to Section 01 33 23 – Shop Drawings, Product Data and Samples.

B. Product data: submit manufacturer's product catalog data and installation guides.

C. Samples: submit samples including the following:
1. Corner cutaway: submit corner cutaway, including glazing system, quality of construction and specified exterior/interior finishes.
2. Exterior: submit color samples of exterior color finishes.
3. Hardware: submit samples indicating typical hardware finishes.

D. Quality control reporting: submit manufacturer's test results reported by independent laboratory indicating compliance with specified performance and design requirements, as listed in 1.4 Performance Requirements, according to Section 01 33 26 – Source Quality Control Reporting.

1.6 QUALITY ASSURANCE

A. Single source responsibility: The window manufacturer is responsible for the fabrication of pultruded fiberglass profiles and manufacture of all sash and frames.

B. Regulatory requirements:
1. Emergency escape and rescue: comply with requirements for sleeping units of [IBC International Building Code] [IRC International Residential Code]

1.7 PRODUCT DELIVERY REQUIREMENTS

A. Comply with the product delivery requirements specified in Section 01 65 00 - Product Delivery Requirements.

1.8 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Comply with the requirements for storage and handling of products as specified in Section 01 66 00 – Product Storage and Handling Requirements.

B. Store units in a dry location, off the ground, under cover, protected from weather and construction activities.

1.9 WARRANTIES

A. Workmanship and materials: 15-year limited warranty.
B. Insulating glass: 20-year limited warranty.
C. Fiberglass exterior finish: 15-year limited warranty.
D. Wood interior finish: 5 years limited warranty

PART 2 PRODUCTS

2.1 MANUFACTURED UNITS

A. Fiberglass Clad Exterior / Wood Interior Insert Double-Hung Windows as manufactured by Beechworth Windows, LLC of Ladysmith, Wisconsin.

2.2 FIBERGLASS CLAD EXTERIOR / WOOD INTERIOR INSERT DOUBLE-HUNG WINDOW MATERIALS

A. Frame:
1. Exterior frame members milled from pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative. The frame includes solid one-piece jambs free from nails or screws. Frame corners shall be rabbet-cut, chemically and mechanically fastened.
2. Frame is clad with .075" [1.9mm] thick reinforced fiberglass pultrusion, with an integral extruded nailing fin at head and sides with vinyl nailing fin applied at sill. Corners shall be mitered, include internal corner keys, and chemically fastened.
3. Interior frame materials to be milled from [pine], kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative.
4. Frame thickness shall be 11/16" [18mm].
5. Sill shall have a 6 degree slope.
6. Frame shall have standard jamb depth of 4-9/16" [116mm].
7. Optional: frame provided with jamb extensions up to and including 12" [305mm] overall jamb depth [factory applied] [shipped loose]. Jamb extensions match interior frame finish.

B. Sash:
1. Sash shall be a reinforced fiberglass pultrusion exterior of .075" [2.0mm] thickness, miter cut at corners with internal corner keys and chemically fastened.
2. Interior sash materials to be milled from [pine], kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative. Interior wood sash is coped and snapped into cladding.
3. Sash shall be 1-1/2" [38mm] thick.
4. Stiles and rails shall be 1-3/4" [44mm] wide.
5. Top and bottom sash must tilt in from the inside for cleaning purposes without removal of screens.

C. Finish:
1. Exterior fiberglass finish: Polyurethane enamel; meets or exceeds AAMA 623 requirements.
   Colors: [frost white] [sand beige] [tudor bronze] [cabin brown] [pottery gray] [onyx black].
2. Interior finish: [clear treated wood: [pine] [primed] [prefinished: [white latex]].

D. Glazing: select quality complying with ASTM C1036. Insulating glass IGCC certified to performance level CBA when tested in accordance with ASTM E2190.
1. Glazing method:
   a. Insulated glass consisting of two lites of clear [annealed (standard)] [tempered] glass
2. Glass type:
   [Standard: insulated glass consisting of one multi-layered Low E coatings applied to the number two surface, EasyCare coating applied on number one surface and one lite of clear glass with warm-edge spacer system and argon gas in airspace]
   [Advanced: insulated glass consisting of one lite of multi-layered Low E coatings applied to the number two surface, EasyCare coating applied on number one surface and one lite of clear glass with warm-edge spacer system and argon gas in airspace]
   [Max: insulated glass consisting of one lite of multi-layered Low E coatings applied to the number two surface, EasyCare coating applied on number one surface and one lite with hardcoat applied on the number four surface with warm-edge spacer system and argon gas in airspace]
   [Laminated glass]
   [Specialty glass: [obscure] [bronze] [gray] [other as selected by the Architect]]
3. Insulated glass airspace:

[Argon gas]

4. Insulated glass shall be sealed with an advanced [gray] warm-edge spacer system with integrated edge seal and foil laminate moisture vapor barrier.
5. Glass shall be glazed with glazing adhesive at sash exterior.

E. Hardware:
1. Self-contained block and tackle balance system housed in a vinyl jamb liner. Vinyl extruded jamb liner is white or beige. Block and tackle balance housing colors to match jamb liner.
2. Zinc die-cast sash lock shall be surface mounted mechanically, factory applied at meeting rails. Two zinc die-cast flush-mounted tilt latches factory-applied to top rail of bottom sash. Two vinyl semi-recessed tilt latches factory-applied to top rail of to top sash. Two sash locks area applied to all units over 32" [813mm] rough opening width and wider. Integral sash lift at check rail.
3. Finish: [tan] [white] [rustic bronze] [brushed nickel].

F. Weather stripping:
1. Three rows of beige pile weather strip with center fin shall be applied at each jamb liner.
2. Vinyl bulb weather strip shall include:
   a. One row at bottom sash bottom rail
   b. One row at check rail
   c. One row at head parting stop

G. Screens:
1. Consisting of .019" [0.5mm] thick formed aluminum butt-jointed frames with baked-on acrylic coating and injection-molded exposed vinyl corner keys [20x20 charcoal vinyl-coated fiberglass] mesh.
2. Frame finish: matches exterior frame.

Optional accessories. Edit as required.

H. Interior removable grilles:
1. Full perimeter 7/8" (22mm) [putty profile] [stepped profile] wood grilles with no exposed fastening devices.
2. Pattern: [rectangular] [marginal] [custom configuration as noted on drawings (lite cut subject to approval by Beechworth Windows)].
3. Finish: [clear wood: [pine] [primed] [prefinished: [white latex] [clear satin finish]].

I. Airspace grilles:
1. Aluminum grilles in sealed airspace: [5/8" (16mm) flat] [11/16" (17mm) sculptured].
2. Pattern: [rectangular] [marginal] [custom configuration as noted on drawings (lite cut subject to approval of Beechworth Windows)].
3. Color: [frost white] [sand beige] [tudor bronze] [cabin brown] [pottery gray] [onyx black] [two-tone sand beige/white interior] [two-tone tudor bronze/white interior] [two-tone cabin brown/white interior] [two-tone pottery gray/white interior] [two-tone onyx black/white interior]

J. Simulated divided lites:
1. Exterior 7/8" (22mm) putty profile fiberglass and interior 7/8" (22mm) [putty] [stepped] wood muntins adhered to glass with double-coated acrylic foam tape.
2. Adobe aluminum grilles in sealed airspace.
3. Pattern: [rectangular] [marginal] [custom configuration as noted on drawings (lite cut subject to approval of Beechworth Windows)].
4. Finish: matches exterior/interior sash finish.

2.3 ACCESSORIES AND TRIM

A. Interior installation clips [shipped loose] [factory applied]: [5-1/2" (140mm)] [11" (279mm)].

B. PVC drip cap: [factory applied (factory-mulled units only)] [shipped loose]. Color: white.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install windows according to manufacturer's instructions and reviewed shop drawings to ensure proper installation and operation.

B. Install window unit plumb, level and square with no distortion of frame members.

C. Fill perimeter frame to wall opening cavity per manufacturer’s installation instructions.

D. Apply approved sealant in accordance with Section 07 90 00 - Joint Protection.

E. Do not puncture fiberglass cladding.

3.2 ADJUSTING AND CLEANING

A. Adjust operating sash and hardware to provide tight fit at contact points and at the weather stripping for smooth operation.

B. Remove excess sealant materials and visible labels from glass. Clean glass surfaces promptly after installation.

C. Initiate and maintain all protection and other precautions required to ensure windows are in acceptable condition at time of substantial completion.

END OF SECTION