



Following are written specifications for:

Quantum Wood Windows—Section 08550

Quantum Stile and Rail Wood Doors—Section 08216

These specifications are also available in PDF format and as a Word Document and can be sent via e-mail or on CD. Please contact your Quantum Representative to request your preferred format.

NOTE: Quantum Specifications are now available in MasterFormat 2004. If you would prefer this version, please contact your Quantum Representative.

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Sections:
1. Finish Carpentry: Section 06200.
 2. Building Insulation: Section 07210.
 3. Flashing and Sheet Metal: Section 07600.
 4. Sealants: Section 07920.
 5. Paints and Coatings: Section 09900.

1.2 REFERENCES

- A. American Architectural Manufacturers Association (AAMA).
1. AAMA 904.1.
- B. American Society for Testing and Materials (ASTM).
1. E 283 - "Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen."
 2. E 330 - "Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference."
 3. E 331 - "Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference."
 4. E 547 - "Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential."
 5. E 773 - "Test Method for Accelerated Weathering of Insulating Glass Units."
 6. E 774 - "Specification for Classification of the Durability of Sealed Insulating Glass Units."
- C. Architectural Woodwork Institute (AWI).
1. "Architectural Woodwork Quality Standards."
- D. Builders Hardware Manufacturers Association (BHMA).
- E. National Fenestration Rating Council (NFRC).
- F. Sealed Insulating Glass Manufacturers Association (SIGMA).
1. ASTM E-774.
- G. Uniform Building Code (UBC).
- H. Window and Door Manufacturers Association (WDMA).
1. WDMA 101 I.S. 2 - "Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows, and Glass Doors."
 2. WDMA 101 I.S. 4 - "Water Repellent Preservative Non-Pressure Treatment for Millwork."

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements: Meet ASTM E 238, E 330, and E 331 requirements for air infiltration, structural performance, and water resistance.

1.4 SUBMITTALS

- A. Product Data: Show dimensions, construction, component connections and locations, anchorage methods and locations, hardware locations, and installation details.
- B. Shop Drawings:
 - 1. Elevation drawings arranged to match architectural elevations, showing alignment and proximity to framing and finish floor.
 - 2. Furnish drawings to scale, with keyed details, showing all window parts, critical dimensions, glass and glazing stops, weather-stripping, screens and similar relative information.

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. Meet WDMA "Hallmark Program" standards for wood window units and WDMA 101 I.S. 2 requirements. Provide windows certified by NFRC and labeled accordingly.
 - 2. Provide windows from a single source fabricator regularly engaged, for a minimum of 10 years, in fabricating products of the type and quality specified for the Project.
- B. Regulatory Requirements: Glass and glazing shall conform with applicable requirements of UBC Chapter 24.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver in enclosed truck, trailer or container, undamaged, complete with installation instructions.

1.7 WARRANTY

- A. Insulating Glass Units: Manufacturer's standard Fifteen (15) Year Limited Warranty from date of delivery that insulating glass units will be free from internal moisture or foreign matter caused by defective materials or workmanship. Laminated glass units carry a limited five (5) year warranty.
- B. Hardware: Manufacturer's standard Five (5) Year Limited Warranty from date of delivery that standard hardware with standard finish will be free from flaws caused by defective materials or workmanship.
- C. Wood Components: Manufacturer's standard Three (3) Year Limited Warranty from date of delivery that wood components will be free from flaws caused by defective material or workmanship.

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PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Quantum Windows and Doors, Inc., 2720 34th Street, Everett, WA 98201, 800-287-6650; or approved manufacturers offering equivalent window units in compliance with specified requirements. Quantum Windows and Doors, Inc. products are specified as a standard of quality, function, and appearance.

2.2 MATERIALS

- A. General: Comply with WDMA, 101 I.S. 2
- B. Wood:
1. Hand sanded, grain and color matched.
 2. Water-repellent preservative treated after fabrication in accordance with WDMA.
 3. Provide true divided lites as shown.
 4. Options: *(Select from the following)*:
 - a. Interior and exterior trim.
 - b. Jamb liners.
 - c. Mullions.
 - d. Ovolo detailing.
 5. Wood Species: Due to differences in grain and cell structure some wood species are not compatible. When combining species consult with manufacturer for compatibility.
 - a. Exterior:
 - (1) Douglas Fir (*Pseudotsuga Menziesii*). Clear vertical grain standard or *(Select from the following)*:
 - (2) Mahogany (*Swietenia Macrophylla*).
 - (3) Teak (*Tectona Grandis*).
 - (4) Yellow Cedar (*Chamaecyparis Nootkatensis*).
 - (5) Western Red Cedar (*Thuja Plicata*).
 - b. Interior:
 - (1) Douglas Fir (*Pseudotsuga Menziesii*). Clear vertical grain standard or *(Select from the following)*:
 - (2) Mahogany (*Swietenia Macrophylla*).
 - (3) Teak (*Tectona Grandis*).
 - (4) Redwood (*Sequoia Sempervirens*).
 - (5) Yellow Cedar (*Chamaecyparis Nootkatensis*).
 - (6) Western Red Cedar (*Thuja Plicata*).
 - (7) Black Walnut (*Juglans Nigra*).
 - (8) Maple (*Acer Saccharum*).
 - (9) White Oak (*Quercus Alba*).
 - (10) Cherry (*Prunus Serotina*).

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C. Wood Finishes:

1. Exterior: *(Select from the following)*:
 - a. Unfinished for job site finishing by others in the field.
 - b. Factory applied Benite pre-sealer for job site finishing by others in the field.
 - c. Two coats of factory applied Sikkens finish with an additional coat applied by others in the field after installation.
 - d. Three coats of factory applied Sikkens finish.
 - e. Factory applied stain finish as specified by Architect.
 - f. One coat factory applied primer, finish coats applied by others in the field.
 - g. Factory applied paint finish as specified by Architect.
2. Interior: *(Select from the following)*:
 - a. Unfinished for job site finishing by others in the field.
 - b. Factory applied Benite pre-sealer for job site finishing by others in the field.
 - c. Two coats of factory applied Sikkens finish with an additional coat applied by others in the field after installation.
 - d. Three coats of factory applied Sikkens finish.
 - e. Factory applied stain finish as specified by Architect.
 - f. One coat factory applied primer, finish coats applied by others in the field.
 - g. Factory applied paint finish as specified by Architect.

D. Fasteners: Comply with WDMA 101 I.S. 2 for fabrication, and window manufacturer's recommendations and standard industry practices for type and size, and as follows:

1. Window Fabrication and Installation: Zinc-coated or nonferrous nails and screws as recommended by window manufacturer
2. Hardware and Accessory Installation: Stainless steel screws.
3. Exterior Connections and Attachments: Stainless fasteners as required.

E. Hardware:

1. Friction Hinges: Four-bar stainless steel in compliance with AAMA 904.1. Attach with stainless steel screws.
2. Cam Action Latch Handles and Strikes: Solid bronze or brass. Attach with stainless steel screws.
3. Finishes: *(Select from the following)*:

U.S. Standard	BHMA Standard	
US 3	605	Polished Brass.
US 4	606	Satin Brass
US 10	612	Satin (Red) Bronze.
US 10B	613	Oil Rubbed Bronze.
US 14	618	Plated Bright Nickel.
US 25D	—	Satin White Bronze.

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- E. Glass and Glazing:
1. General:
 - a. Provide glazing materials produced, fabricated and installed to withstand normal thermal movement and wind loading.
 - b. Glass lites for the various size openings, including thicknesses and strengths (annealed or tempered), shall meet or exceed performance requirements specified.
 - c. Glass Types: Dependent on size required and exposure.
 - (1) Double-strength 1/8".
 - (2) Crystal 3/16".
 - (3) 1/4".
 2. Options: *(Select from the following)*:
 - a. Single glazing.
 - b. Argon-filled.
 - c. Low-E.
 - d. Heat mirror.
 - e. Laminated.
 - f. Obscure.
 - g. Safety.
 - h. Sound control.
 - i. Tempered.
 - j. Tinted.
 - k. Beveled.
 3. Insulating Glass: Fabricated glazing shall be sealed with compatible materials from a single source manufacturer as follows:
 - a. Conform to SIGMA ASTM E 774, Class A.
 - b. Double sealed using Edgetec Composite Super Spacer hot-melt Butyl sealant backer.
 - c. Insulating glass may also be fabricated double sealed using desiccated aluminum spacer, poly-isobutylene (PIB) primary sealant, poly-sulphide secondary sealant.
 - d. Spacer colors as selected from readily available supplies held in stock by manufacturer.
 - e. NFRC U-Values: As selected from available manufacturer's standards and as required.
 4. Glazing:
 - a. Windows shall be certified by NFRC and labeled accordingly.
 - b. Provide all units factory glazed unless size of unit would preclude factory glazing.
 - c. Set insulating glass units in silicone latex sealant (glazing tape not to be used). Fix in place with wooden glazing stops set from the exterior, fastened in place with stainless steel pin nails.
 5. Specialty Glazing: Art glass, including leaded, applied lead (flat or oval), bent, opaque, sandblasted, restoration, and similar types shall be supplied by a manufacturer demonstrating satisfactory experience in production of similar materials.
- G. Screens: Wood framed or metal to match window style.

2.3 FABRICATION

- A. Signature Series Windows: Quantum Windows and Doors, Inc.; or approved. *(Select from the following)*:
1. Casement and Awning Windows:
 - a. Window Grade: Comply with requirements of WDMA Performance Class LC-25.
 - b. Fabricate sash with mortise and tenon construction.
 - c. Hardware:
 - (1) Hinges: Concealed, stainless steel, four-bar (two per sash), attached with stainless steel screws.
 - (2) Cam latches and sweep strikes solid bronze.
 2. Sash Glazed Picture Windows: *(styles as selected)*.
 - a. Window Grade: Comply with requirements of WDMA Performance Class LC-25
 - b. Fabricate sash with mortise and tenon construction.
 3. Direct Glazed Picture Windows: *(styles as selected)*.
 - a. Window Grade: Comply with requirements of WDMA Performance Class C-50.
- B. Legacy Series Windows: Quantum Windows & Doors, Inc.; or approved. *(Select from the following)*.
1. Double or Single Hung: *(Styles as selected)*
 - a. Window Grade: Comply with requirements of WDMA Performance Class H-C45.
 - b. Fabricate sash stiles and rails with coped (screw and glue) construction.
 - c. Hardware:
 - (1) Balance System: Concealed block and tackle (no exposed track).
 - (2) Sweep latch and keeper solid bronze or brass.
 - (3) Classic pull solid bronze or brass.
- H. Traditional Series Windows: Quantum Windows and Doors, Inc.; or approved. *(Select from the following)*:
1. Casement and awning Windows: *(Styles as selected)*
 - a. Window Grade: Comply with requirements of WDMA Performance Class C-HC 55.
 - b. Fabricate sash stiles and rails with doweled construction.
 - c. Hardware:
 - (1) Hinges: Concealed, stainless steel, four bar (two per sash).
 - (2) Cam latches and mortise strikes solid bronze or brass.

Or

Manually operated rotary crank system with multi-point cam latch.
 2. Sash Glazed Picture Window: *(Styles as selected)*
 - a. Window Grade: Comply with requirements of WDMA Performance Class F-LC35.
 - b. Fabricate sash stiles and rails with doweled construction.

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PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install in accordance manufacturer's instructions, reviewed Shop Drawings, and as shown and specified, to achieve water tight and weather-tight, and freely operating installation.

- B. Maintain alignment with adjacent Work. Secure assembly to framed openings plumb, square, without distortion.
 - 1. Install level, plumb, and square.
 - 2. Shim between sill and framing near bottom corners and under any vertical mullions.
 - 3. Attach through nailing flange or exterior trim except at head.
 - 4. Seal exterior perimeter where siding meets jamb or trim.
 - 5. Insulate voids between jambs and framing.
 - 6. Provide head flashing for head conditions not fully protected from weather, including head trim.
 - 7. Finish windows, with paint, stain, varnish, and similar coatings, as specified in Section 09900, within 30 days on all six sides to maintain warranty.
 - 8. Protect windows during construction to minimize clean-up.

3.2 ADJUSTING

- A. Upon completion leave units closed and locked.

END OF SECTION

Stile and Rail Wood Doors—Section 08216

PART 1 - GENERAL

1.1 SUMMARY

- A. Products Installed but not Furnished Under this Section: Finish Hardware specified in Section 08700.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM).
 - 1. E 774 - "Specification for Classification of the Durability of Sealed Insulating Glass Units."
- B. Architectural Woodwork Institute (AWI)..
 - 1. "Architectural Woodwork Quality Standards."
 - a. Stile and Rail Doors, Section 1400.
- C. Builders Hardware Manufacturers Association (BHMA).
- D. Commercial Standard (CS).
 - 1. CS171 "Hardwood Veneered Doors (SolidCore, HollowCore, and Panel and Sash)."
- E. National Fenestration Rating Council (NFRC).
- F. Sealed Insulating Glass Manufacturers Association (SIGMA).
 - 1. ASTM E-774.
- G. Window and Door Manufacturers Association (WDMA).
 - 1. I.S. 6A - "Industry Standard for Architectural Stile & Rail Doors."

1.3 SUBMITTALS

- A. Samples of corner portion of each type of door showing core, edge band, veneer, construction, and identifying labels.
- B. Shop Drawings showing details of fabrication and installation, and method of reinforcement for hardware.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Construction shall meet or exceed requirements of WDMA I.S.6.
 - 2. Provide doors from a single source fabricator regularly engaged, for a minimum of 10 years, in fabricating products of the type and quality specified for the Project.
- B. Regulatory Requirements: Glass and glazing shall conform with applicable requirements of UBC Chapter 24.

Specifications

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1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver in enclosed truck, trailer or container, undamaged, complete with installation instructions.
- B. Deliver doors after building is enclosed and gypsum board work is dry. Store flat on a level surface in a dry, well ventilated area where relative humidity is 50 percent to 55 percent at 70 degrees F. Cover to keep clean but allow air circulation. Handle with clean gloves and do not drag doors across one another or across other surfaces.

1.6 WARRANTY

- A. Insulating Glass Units: Manufacturer's standard Fifteen (15) Year Limited Warranty from date of delivery that insulating glass units will be free from internal moisture or foreign matter caused by defective materials or workmanship. Laminated glass units carry a limited five (5) year warranty.
- B. Wood Components: Manufacturer's standard Three (3) Year Limited Warranty from date of delivery that wood components will be free from flaws caused by defective material or workmanship.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Quantum Windows and Doors, Inc., 2720 34th Street, Everett, WA 98201, 800-287-6650; or approved manufacturers offering equivalent door units in compliance with specified requirements. Quantum Windows and Doors, Inc. products are specified as a standard of quality, function, and appearance.

2.2 MATERIALS

- A. Wood:
 - 1. Hand sanded, grain and color matched.
 - 2. Water-repellent preservative treated after fabrication in accordance with WDMA.
 - 3. Provide true divided lites as shown.
 - 4. Options: *(Select from the following)*:
 - a. True divided lites.
 - b. Transoms.
 - c. Sidelites.
 - 5. Wood Species: Due to differences in grain and cell structure some wood species are not compatible. When combining species consult with manufacturer for compatibility.
 - a. Exterior:
 - (1) Douglas Fir (*Pseudotsuga Menziesii*). Clear vertical grain standard or *(Select from the following)*:
 - (2) Mahogany (*Swietenia Macrophylla*).
 - (3) Teak (*Tectona Grandis*).
 - (4) Yellow Cedar (*Chamaecyparis Nootkatensis*).

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- (5) Western Red Cedar (*Thuja Plicata*).
- b. Interior:
 - (1) Douglas Fir (*Pseudotsuga Menziesii*). Clear vertical grain standard or (*Select from the following*):
 - (2) Mahogany (*Swietenia Macrophylla*).
 - (3) Teak (*Tectona Grandis*).
 - (4) Redwood (*Sequoia Sempervirens*).
 - (5) Yellow Cedar (*Chamaecyparis Nootkatensis*).
 - (6) Western Red Cedar (*Thuja Plicata*).
 - (7) Black Walnut (*Juglans Nigra*).
 - (8) Maple (*Acer Saccharum*).
 - (9) White Oak (*Quercus Alba*).
 - (10) Cherry (*Prunus Serotina*).
- B. Wood Finishes:
 - 1. Exterior: (*Select from the following*):
 - a. Unfinished for job site finishing by others in the field.
 - b. Factory applied Benite pre-sealer for job site finishing by others in the field.
 - c. Two coats of factory applied Sikkens finish with an additional coat applied by others in the field after installation.
 - d. Three coats of factory applied Sikkens finish.
 - e. Factory applied stain finish as specified by Architect.
 - f. One coat factory applied primer, finish coats applied by others in the field.
 - g. Factory applied paint finish as specified by Architect.
 - 2. Interior: (*Select from the following*):
 - a. Unfinished for job site finishing by others in the field.
 - b. Factory applied Benite pre-sealer for job site finishing by others in the field.
 - c. Two coats of factory applied Sikkens finish with an additional coat applied by others in the field after installation.
 - d. Three coats of factory applied Sikkens finish.
 - e. Factory applied stain finish as specified by Architect.
 - f. One coat factory applied primer, finish coats applied by others in the field.
 - g. Factory applied paint finish as specified by Architect.
- C. Hardware: Furnished as specified in Section 08700.
- D. Glass and Glazing:
 - 1. General:
 - a. Provide glazing materials produced, fabricated and installed to withstand normal thermal movement and wind loading.
 - b. Glass lites for the various size openings, including thicknesses and strengths (annealed or tempered), shall meet or exceed performance requirements specified.
 - c. Glass Types: Dependent on size required and exposure. Provide tempered safety glass where required by code.
 - (1) Double-strength 1/8".

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- (2) Crystal 3/16".
- (3) 1/4".
- 2. Options: *(Select from the following)*:
 - a. Single glazing.
 - b. Argon-filled.
 - c. Low-E.
 - d. Heat mirror.
 - e. Laminated.
 - f. Obscure.
 - g. Safety.
 - h. Sound control.
 - i. Tempered.
 - j. Tinted.
 - k. Beveled.
- 3. Insulating Glass: Fabricated glazing shall be sealed with compatible materials from a single source manufacturer as follows:
 - a. Conform to SIGMA ASTM E 774, Class A.
 - b. Double sealed using Edgetec Composite Super Spacer hot-melt Butyl sealant backer.
 - c. Insulating glass may also be fabricated double sealed using desiccated aluminum spacer, polyisobutylene (PIB) primary sealant, poly-sulphide secondary sealant.
 - d. Spacer colors as selected from readily available supplies held in stock by manufacturer.
 - e. NFRC U-Values: As selected from available manufacturer's standards and as required.
- 4. Glazing:
 - a. Doors shall be certified by NFRC and labeled accordingly.
 - b. Provide all units factory glazed unless size of unit would preclude factory glazing.
 - c. Set insulating glass units in silicone latex sealant (glazing tape not to be used). Fix in place with wooden glazing stops set from the exterior, fastened in place with stainless steel pin nails.
- 5. Specialty Glazing: Art glass, including leaded, applied lead (flat or oval), bent, opaque, sandblasted, restoration, and similar types shall be supplied by a manufacturer demonstrating satisfactory experience in production of similar materials.

2.3 FABRICATION

- A. General:
 - 1. Comply with WDMA, 101 I.S. 6A and AWI in Grade as specified.
 - 2. Door Thickness: 1-3/4", 56 mm, or 68 mm as selected.
 - 3. Stiles and Rails: Glue block construction with doweled and glued joints
 - 4. Veneers: Thickness varies by wood species.
- B. Lift/Slide Doors: Quantum Windows and Doors, Inc.; or approved.
 - a. Door Grade: Comply with requirements of WDMA Performance Class SGD-C30.
- C. Hinged Doors: Quantum Windows and Doors, Inc.; or approved.

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- D. Slide/Fold Doors: Quantum Windows and Doors, Inc.; or approved.
- E. French Slide Doors: Quantum Windows and Doors, Inc.; or approved.
- F. Transoms and Sidelites: Quantum Windows and Doors, Inc.; or approved.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that door frames are of types required for doors and are installed as required for proper installation of doors. Do not install doors in frames which would hinder operation of doors.

3.2 INSTALLATION

- A. Comply with requirements of WDMA I.S.6, reviewed Shop Drawings, manufacturer's instructions, and as shown and specified, to achieve water-tight and weather-tight, and freely operating installation.
- B. Install doors plumb, rigid, in true alignment in a prepared opening and fasten to achieve maximum operational effectiveness and appearance of unit.
 - 1. Seal exterior perimeter where siding meets jamb or trim.
 - 2. Insulate voids between jambs and framing.
 - 3. Provide head flashing for head conditions not fully protected from weather, including head trim.
 - 4. Finish doors with paint, stain, varnish, and similar coatings, as specified in Section 09900, within 30 days on all six sides to maintain warranty.
 - 5. Protect doors during construction to minimize clean-up.
- C. Hardware:
 - 1. Install in accordance with manufacturer's instructions, regulatory requirements, and industry standards, taking care not to damage doors, frames, or their finishes, with all mortises flush, and all screws turned to a flat seat.
 - 2. Adjust and lubricate hardware, as required, for proper operation.
 - 3. Upon completion of installation, doors and finish hardware shall operate smoothly. Doors shall stand open in any position.

3.3 ADJUSTING

- A. Replace or rehang doors which are hinge-bound and do not swing or operate freely.
- B. Replace prefinished doors damaged during installation.

END OF SECTION

