SECTION 06 40 23

INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for furnishing and installing interior architectural woodwork items including the following:

1. Interior millwork and trim.

2. Flush wood paneling and wainscots.

B. Related Sections:

1. Architectural woodwork restoration is specified in Section 06 40 29.

2. Architectural wood casework is specified in Section 06 41 00.

3. Flush wood doors are specified in Section 08 14 16.

4. Stile and rail wood doors are specified in Section 08 14 33.

5. Field-applied finishes are specified in Section 09 91 00.

1.02 SUBMITTALS

A. Shop Drawings: Show details of fabrication and installation, dimensioned plans, elevations, and sections.

1. Shop drawings shall comply with Architectural Woodwork Standards (AWS) Section 1 – Submittals.

2. Apply Architectural Woodwork Standards (AWS) " Certified and Monitored Compliance Program" or " Quality Certification Program" (QCP) to first page of shop drawings.

B. Samples:

1. Lumber with or for transparent finish, 50-square inches, for each species and cut, finished on one side and one edge.

2. Veneer leaves representative of and selected from flitches to be used for transparent finished woodwork.

3. Wood veneer panel products, with or for transparent finish, 8-1/2-inches by 11-inches for panels and 50-square inches for lumber, for each finish system and color, with one half of exposed face finished.

4. Corner pieces of miter joints for standing trim.

C. Product certificates signed by woodwork manufacturer certifying that products comply with specified requirements.

D. Qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with project names, addresses, names of Architects and Owners, and other specified information.

F. LEED Submittals:

1. Credit IEQ 4.1: Product data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D.

a. Furnish LEED Online Credit Template listing the adhesives and sealants used in the building and declaring that they meet the specified LEED requirements.

b. Required Audit Documentation:

1) Product data sheets and MSDS for each adhesive/sealant used on the interior, with the VOC content in g/L circled and indicating VOC content of each product used.

2) Summary table comparing credit VOC requirements and actual VOC levels for each product.

1.03 QUALITY ASSURANCE

A. Fabricator Qualifications: Firm experienced in producing architectural woodwork similar to that required for this Project, with sufficient production capacity to produce required units without causing delay in the work.

B. Installer Qualifications: Arrange for interior architectural woodwork installation by a firm that can demonstrate successful experience in installing architectural woodwork items similar in type and quality to those required for this Project.

C. WI Certified Compliance Program (CCP):

1. Before delivery to the Project site, if the fabricator/supplier is:

a. A WI licensee, issue WI "Certificates of Compliance" certifying that items comply with WI requirements for specified grade.

b. A non-WI licensee, furnish a WI " Certified Compliance Tracking Acknowledgement" with the original submittal, evidencing that they have arranged for and will pay inspections required by the WI to comply with the specified requirements. Certified Compliance labels shall be affixed by the WI Inspector.

2. Upon completion of installation, furnish a WI Certified Compliance Certificate for the installation.

3. In the event of question as to compliance with the referenced standard of any item of work, the County' s Representative may require independent inspection service of questioned items as specified in " Independent Inspection Service" of " WI Services and Quality Control Options" published by the WI.

1.04 ENVIRONMENTAL QUALITY ASSURANCE

A. Credit IEQ 4.1: Adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the requirements of the following reference standards:

1. Adhesives, Sealants and Sealant Primers: Comply with South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits as follows:

| Architectural Applications | VOC Limit g/L less water | Specialty Applications | VOC Limit g/L less water |
|---|---|---|---|
| Indoor Carpet Adhesives | 50 | PVC welding | 510 |
| Carpet pad adhesives | 50 | CPVC welding | 490 |
| Wood flooring adhesives | 100 | ABS welding | 325 |
| Rubber floor adhesives | 60 | Plastic cement welding | 250 |
| Subfloor adhesives | 50 | Adhesive primer for plastic | 550 |
| Ceramic tile adhesives | 65 | Contact adhesive | 80 |
| VCT and asphalt adhesives | 50 | Special purpose contact adhesive | 250 |
| Drywall and panel adhesives | 50 | Structural wood member adhesive | 140 |
| Cove base adhesives | 50 | Sheet applied rubber lining operations | 850 |
| Multipurpose construction adhesives | 70 | Top and trim adhesive | 250 |
| Structural glazing adhesives | 100 | | |

| Substrate Specific Applications | VOC Limit g/L less water | Sealants | VOC Limit g/L less water |
|---|---|---|---|
| Metal to Metal | 30 | Architectural | 250 |
| Plastic foams | 50 | Nonmembrane roof | 300 |
| Porous material (except wood) | 50 | Roadway | 250 |
| Wood | 30 | Single-ply roof membrane | 450 |
| Fiberglass | 80 | Other | 420 |
| Sealant Primers | VOC Limit (g/L less water) | | |
| Architectural, nonporous | 250 | | |
| Architectural, porous | 775 | | |
| Other | 750 | | |

2. Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000.

| Aerosol Adhesives | VOC Limit |
|---|---|
| General purpose mist spray | 65% VOCs by weight |
| General purpose web spray | 55% VOCs by weight |
| Special purpose aerosol adhesives (all types) | 70% VOCs by weight |

B. Applicable LEED Credits:

1. Credit IEQ 4.1 – Low-Emitting Materials - Adhesives and Sealants.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Protect woodwork during transit, delivery, storage, and handling to prevent damage, soilage, and deterioration.

B. Do not deliver woodwork until painting, wet work, grinding, and similar operations that could damage, soil, or deteriorate woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas whose environmental conditions meet specified requirements.

1.06 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is completed, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Field Measurements: Where woodwork is required to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before manufacturing woodwork; show recorded measurements on final shop drawings. Coordinate manufacturing schedule with construction progress to avoid delay of work.

1.07 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of work to ensure that interior architectural woodwork can be supported and installed as required.

B. Fabricated woodwork shall be left in a well ventilated warehouse for a minimum of 72-hours prior to delivery to the Project site.

1.08 INDOOR AIR QUALITY

A. Do not use wood products containing urea formaldehyde glues inside the shell of the building.

B. When machining plastic products, protect surrounding areas from dust.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Provide materials that comply with requirements of the Architectural Woodwork Standards (AWS) for each type of woodwork and AWS quality grade specified.

B. Lumber Standards: Comply with PS 20 for lumber and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee Board of Review.

C. Plywood Standards: Comply with PS 1 or APA PRP-108.

1. Plywood products shall contain no added urea-formaldehyde as a binder.

D. Particleboard: One of the following at Developer Design/Builder' s option:

1. Particleboard complying with ANSI A208.1, Grade M-2, made with binder containing no urea-formaldehyde resin.

2. Straw-based particleboard complying with requirements in ANSI A208.1, Grade M-2, except for density.

E. Medium Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.

F. Grade Stamps: Provide lumber with each piece factory-marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.

1. For exposed lumber, furnish pieces with grade stamps applied to ends or back of each piece, or omit grade stamps entirely and provide certificates of grade compliance issued by inspection agency.

G. Furring, Blocking, Shims and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15-percent moisture content.

H. Screws: Material, type, size, and finish required for each use.

I. Nails: Material, type, size, and finish required for each use.

J. Anchors: Material, type, size, and finish required for each substrate for secure anchorage.

K. Glue: As recommended by manufacturer for general carpentry use.

M. Adhesives: As recommended by manufacturer. Do not use adhesive that contain urea formaldehyde.

2.02 FABRICATION, GENERAL

A. Wood Moisture Content: Comply with requirements of referenced quality standards for moisture content of lumber in relation to relative humidity conditions existing at time of fabrication and in installation areas.

B. Ease edges to a radius as follows:

1. Corners and edges of solid wood members less than 1-inch in nominal thickness: 1/16-inch.

2. Edges of rails and similar members more than 1-inch in nominal thickness: 1/8-inch.

C. Complete fabrication, including assembly and finishing before shipment to Project site to maximum extent possible. Disassemble components only as required for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

D. Shop-cut openings to maximum extent possible. Locate openings accurately and use templates for roughing-in diagrams to produce accurately sized and shaped openings. Smooth edges and cutouts.

2.03 MILLWORK AND TRIM FOR TRANSPARENT FINISH

A. Quality Standard: Comply with Architectural Woodwork Standards (AWS) Section 6.

B. Grade: Premium.

C. Backout or groove backs of flat trim members and kerf backs of other wide flat members, except for members with ends exposed in finished work.

D. Assemble casings in plant except where limitations of access to place of installation require field assembly.

E. Lumber Species: Match existing.

F. Finish: Field-applied transparent finish as specified in Section 09 91 00.

2.04 MILLWORK AND TRIM FOR OPAQUE FINISH

A. Quality Standard: Comply with Architectural Woodwork Standards (AWS) Section 6.

B. Grade: Custom.

C. Backout or groove backs of flat trim members and kerf backs of other wide flat members, except for members with ends exposed in finished work.

D. Assemble casings in plant except where limitations of access to place of installation require field assembly.

E. Lumber Species: White pine, sugar pine, or other closed-grain hardwood listed in referenced woodworking standard.

F. Finish: Field-applied as specified in Section 09 91 00.

2.05 FLUSH WOOD PANELING AND WAINSCOTS FOR TRANSPARENT FINISH

A. Quality Standard: Comply with Architectural Woodwork Standards (AWS) Section 8.

B. Grade: Premium.

C. Veneer Species: Match existing.

D. Matching of Adjacent Veneer Leaves: Book match.

E. Veneer Matching Within Panel Face: Balance match.

F. Panel-Matching Method: Match panels within each separate area by sequence-matched, uniform-size sets.

G. Vertical Panel-Matching Method: End match.

H. Core: Weyerhaeuser "Duraflake FR" or approved equal fire-retardant particleboard having a flame spread and smoke developed values of 25 when tested in accordance with ASTM E84.

I. Finish: Prefinished as specified.

2.06 FLUSH WOOD PANELING AND WAINSCOTS FOR OPAQUE FINISH

A. Quality Standard: Comply with Architectural Woodwork Standards (AWS) Section 8.

B. Grade: Custom.

C. Veneer Species: Birch or other close grain hardwood.

D. Core: Weyerhaeuser "Duraflake FR" or approved equal fire-retardant particleboard having a flame spread and smoke developed values of 25 when tested in accordance with ASTM E84.

E. Finish: Field-applied as specified in Section 09 91 00.

2.07 SHOP-FINISHING OF INTERIOR ARCHITECTURAL WOODWORK

A. Quality Standard: Comply with Architectural Woodwork Standards Section 5.

B. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces and similar preparation of architectural woodwork.

C. Transparent Finish for Open-Grain Woods:

1. Grade: Premium.

2. AWS Finish System 12: Polyurethane, Water-Based.

3. Staining: Match approved sample for color.

4. Effect: Closed grain (filled finish).

5. Sheen: Satin 31- to 45-deg.

D. Transparent Finish for Closed-Grain Woods:

1. Grade: Premium.

2. AWS Finish System 12: Polyurethane, Water-Based.

3. Staining: Match approved sample for color.

4. Effect: Closed grain.

5. Sheen: Satin 31- to 45-deg.

PART 3 - EXECUTION

3.01 PREPARATION

A. Condition woodwork to average prevailing humidity conditions in installation areas prior to installing.

B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including back priming and removal of packing.

3.02 INSTALLATION

A. General: Install interior architectural woodwork in accordance with Architectural Woodwork Standards (AWS) for same grade specified for woodwork involved.

B. Install woodwork plumb, level, true, and straight with no distortions. Shim as required with concealed shims. Install to a tolerance of 1/8-inch in 8'-0" for plumb and level.

C. Scribe and cut woodwork to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.

D. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork and matching final finish where transparent finish is applied.

E. Millwork and Trim: Install with minimum number of joints possible, using full-length pieces to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns and miter at corners.

F. Paneling: Anchor paneling to supporting substrate with concealed panel-hanger clips and by blind nailing on backup strips, splined-connection strips, and similar associated trim and framing. Do not face nail unless approved by the County' s Representative.

1. Install flush paneling with no more than 1/16-inch in 8'-0" horizontal variation from a true plane.

3.03 ADJUSTMENT AND CLEANING

A. Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.

B. Clean woodwork on exposed and semi-exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.04 PROTECTION

A. Provide final protection and maintain conditions in a manner acceptable to manufacturer and installer, to ensure woodwork is without damage or deterioration at time of final acceptance.

3.05 WASTE MANAGEMENT

A. General: Comply with Section 01 74 19.

B. Separate the following categories for salvage or re-use on the site:

1. Sheet materials larger than 2-sq. ft.

2. Solid wood trim longer than 16-inches and multiple offcuts of any size larger than 12-inches.

C. Separate the following for recycling. Material shall be placed in source-separated or comingled recycling bins.

1. Composite wood.

2. Clean dimensional lumber.

D. Separate the following categories for disposal and place in designated areas for hazardous materials:

1. Treated, stained, painted, or contaminated wood.

END OF SECTION