

SECTION 064300 – WOOD STAIRS AND RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood stairs and railings, including rough carriages for stairs.

B. Related Sections:

1. Section 061000 – Rough Carpentry
2. Section 062023 – Interior Finish Carpentry
3. Section 078443 – Joint Firestopping
4. Section 099123 – Interior Painting

C. Reference and Industry Standards

1. The following reference standards shall be applicable to this Section
 - a. New York City Building Code, **current** edition, as amended, inclusive of:
 - Chapter 7 Fire and Smoke Protection Features
 - Chapter 23 Wood
 - b. The current Enterprise Green Communities (EGC) Criteria and the current New York City Overlay.
2. Industry Standards
 - ASTM (American Society for Testing and Materials)
 - FSC (Forest Stewardship Council)
 - SCAQMD (South Coast Air Quality Management District)
 - WI (Woodwork Institute)

D. The current NYC Overlay of the current Enterprise Green Communities Criteria:

1. Mandatory Requirements: See the NYC Overlay of the EGC reference standard for full specifications.
 - a. All projects must achieve compliance with the mandatory criteria measures that are applicable.
 - Criterion 6.4: Healthier Material Selection
 - Criterion 6.10: Construction Waste Management
2. Optional Project Requirements for Certification Points

- a. Additionally, rehab projects are required to achieve **55** optional points. Criteria with optional points related to this Specification Section include, but may not be limited to:

- Criterion 6.1: Ingredient Transparency for Material Health
- Criterion 6.2: Recycled Content and Ingredient Transparency
- Criterion 6.3: Chemical Hazard Optimization
- Criterion 6.5: Environmentally Responsible Material Selection
- Criterion 6.7: Regional Materials
- Criterion 6.10: Construction Waste Management

1.2 ACTION SUBMITTALS

- A. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
- B. Samples:
1. Color chart for field-applied transparent finishes.
 2. Color chart for field-applied opaque finishes.
- C. Test reports for materials tested to ASTM E84 for flame-spread rating.
- D. Physical sample of each item.

1.3 INFORMATIONAL SUBMITTALS

- A. Product Data: Documentation for compliance with Enterprise Green Communities Criteria.

PART 2 - PRODUCTS

2.1 WOOD STAIRS AND RAILINGS

- A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.
- B. Grade: Custom.
- C. Regional Materials: Stairwork and rails shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
- D. Certified Wood: Stairwork and rails shall be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, FSC Principles and Criteria for Forest Stewardship and FSC STD-40-004, FSC Standard for Chain of Custody Certification.
- E. Wood for Transparent Finish: Quarter-sawn, red-oak treads; quarter-sawn red oak handrails.

- F. Wood for Opaque Finish: Any closed-grain hardwood except that eastern white pine, sugar pine, or western white pine may be used for risers, stringers, and moldings.
- G. Finishes for Stair Parts: As follows:
 - 1. Treads: Transparent.
 - 2. Risers: Opaque.
 - 3. Stringers: Opaque.
 - 4. Handrails: Transparent.
 - 5. Scotia, Cove, and Other Moldings: Opaque.

2.2 WOOD MATERIALS

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.
 - 1. Wood Moisture Content: 8 to 13 percent.
- B. Treads, platforms, landings and handrails: Quarter-sawn red oak; transparent finish.
 - 1. Horizontal surfaces shall be able to support a live load of 100 pounds per square foot.
 - 2. Handrails shall not have a flame-spread rating exceeding 150.
 - 3. Handrail profile shall be as indicated [**on Drawings**] [**in woodworking catalog**].
 - 4. Tread profile shall be as indicated [**on Drawings**] [**in woodworking catalog**].
- C. Risers, stringers and moldings: Eastern white, sugar or western pine; opaque finish.
 - 1. Risers shall be $\frac{3}{4}$ inch boards.

2.3 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.
- B. Rough Carriages for Stairs: Laminated veneer lumber, made with an exterior-type adhesive complying with ASTM D 2559, and with the following allowable design values as determined according to ASTM D 5456:
 - 1. Extreme Fiber Stress in Bending, Edgewise: 3100 psi for 12-inch nominal-depth members.
 - 2. Modulus of Elasticity, Edgewise: 2,000,000 psi.
- C. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.
- D. Adhesives: Do not use adhesives that contain urea formaldehyde.

- E. VOC Limits for Installation Adhesives and Sealants: All adhesives must comply with Rule 1168 of the South Coast Air Quality Management District (SCAQMD).
 - 1. Wood Flooring Adhesives: 100 g/L.
 - 2. Multipurpose Construction Adhesives: 70 g/L.
 - 3. Structural Wood Member Adhesive: 140 g/L.
 - 4. Contact Adhesive: 80 g/L
 - 5. Wood Substrate Adhesive: 30 g/L

2.4 FABRICATION

- A. Fabricate wood stairs and railings to dimensions, profiles, and joinery details indicated on the Drawings.
- B. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installation, condition wood stairs and railings to average prevailing humidity conditions in installation areas.
- B. Environmental Limitations: Do not deliver or install wood stairs and railings until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

3.2 INSTALLATION

- A. Grade: Install wood stairs and railings to comply with same grade as item to be installed.
- B. Stairs: Securely anchor carriages to supporting substrates. Install stairs with treads and risers no more than 1/8 inch from indicated position.
- C. Treads and Risers at interior stairs: Secure treads and risers by gluing and nailing to rough carriages
- D. Railings:
 - 1. General: Install rails with no more than 1/8 inch in 96-inch variation from a straight line.
 - 2. Wall Rails: Support rails on indicated metal brackets securely fastened to wall framing.
- E. Touch up finishing work specified in this Section after installation of wood stairs and railings. Fill nail holes with matching filler where exposed.

END OF SECTION 064300