

## SECTION 06 10 53 - MISCELLANEOUS ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Fire-retardant-treated wood.
2. Preservative-treated wood,
3. Shaped wood parapet cap.
4. Plywood ~~backing panels~~ for blocking or other concealed strips.
5. Separator, flexible flashing.

##### B. Related Requirements:

1. Section 05 40 00 "Cold-Formed Metal Framing".
2. Section 06 16 00 "Sheathing" for plywood sheathing and roof ~~deck~~ parapet sheathing; for interior finish plywood in storage areas.
3. Section 06 40 00 "Architectural Woodwork" for wood assemblies.

#### 1.2 COORDINATION

- A. Coordinate layout and installation of wood parapet caps with roofing membrane and base flashing and interfacing and adjoining construction to provide profiles required for slope to drain and support of parapet weathersealing materials.
- B. Coordinate separators over metal framing.

#### 1.3 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal size or greater but less than 5 inches nominal size in least dimension.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
  2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
  3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency in accordance with ASTM D5664.

4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
- B. Shop Drawings: For each profile of wood parapet cap required. Include section detail showing profile with dimensions and slopes.
  1. Note treatment type and manufacturer.
  2. List fastening requirements and anchor types and spacing, citing reference standards.
    - a. Include reference standards, with selections indicated using PDF writer.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For treated wood products.
- B. Evaluation Reports: From ICC-ES or other testing agency acceptable to authorities having jurisdiction, for the following:
  1. Fire-retardant treated wood.
  2. Preservative-treated wood.
  3. Fasteners and drive anchors.

## 1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.
- B. Provide shaped wood parapet caps with top sloped to drain to dimensions indicated.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.
- B. Store and handle treated wood products according to manufacturer's written instructions.
  1. Do not stack on or store profiles wood caps in a manner that would result in warping.

# PART 2 - PRODUCTS

## 2.1 PERFORMANCE REQUIREMENTS

- A. Design wood blocking and parapet caps at roofing and attachment or anchor according to FM Global Property Loss Prevention Data Sheet 1-49 recommendations (FM DS01-49), and as follows:
  1. Use 3x. Minimum size of nailer after shaping to be as indicated on Drawings but no less than 1-1/2-inches in least dimension.

2. Recesses in wood shall provide a minimum 3/4-inch solid wood to remain at recesses for fasteners, to accommodate nuts and washers. Recesses in 1-1/2- inches shall not exceed a 3/4-inch depth.
  3. Anchoring Blocking and Wood Caps (nailers), FM DS01-49: Secure wood nailers as follows:
    - a. To Steel Framing: Use any self-drilling fasteners designed for attachment to metal through wood, that is FM Approved for the securement of above-deck roof components to framing or equivalent faster with evaluation reports to evidence equivalency.
      - 1) Corrosion resistant coated with coating equivalent to hot-dip galvanized ASTM A153 and minimum of showing no red rust after 1,000 hours of salt spray exposure according to ASTM B117
      - 2) Or stainless steel.
    - b. Spacing: Two rows, spaced 24-inches o.c. each row, stagger rows, and maintain 1-inch from edge of wood.
  4. Attach Additional Wood Members to Nailers: Attach according to FM DS01-49, 2.2.2.3.6 or design attachment.
- B. Structural Performance: Wood roof edge nailers including wood parapet caps shall support loads within limits and under conditions indicated:
1. Wind Loads: As indicated on Drawings.
  2. Other Design Loads: As indicated on Drawings.
  3. Forces acting on roofing and exterior cladding and sheet metal finishes.
- C. Alternate to FM requirements for Wood Caps: Comply with Delegated Design Performance Requirements in Section 07 05 43 "Cladding Support Systems."

## 2.2 WOOD PRODUCTS

- A. Lumber: Comply with DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of grading agency.
  2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency .
  3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry wood products.
  4. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content:
1. Plywood: 15 percent.
  2. Boards: 19 percent.
  3. Dimension Lumber: 19 percent for 2-inch nominal thickness or less; 19 percent for more than 2-inch nominal thickness unless otherwise indicated.

## 2.3 FIRE-RETARDANT-TREATED LUMBER

- A. General: Where fire-retardant-treated materials are indicated, materials are to comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested in accordance with ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
  - 1. Treatment is not to promote corrosion of metal fasteners.
  - 2. Exterior Type: Treated materials are to comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering in accordance with ASTM D2898. Use for exterior locations and where indicated.
  - 3. Interior Type A: Treated materials are to have a moisture content of 28 percent or less when tested in accordance with ASTM D3201/D3201M at 92 percent relative humidity. Use where exterior type is not indicated.
  - 4. Design Value Adjustment Factors: Treated lumber is to be tested according to ASTM D5664 and design value adjustment factors are to be calculated according to ASTM D6841.
- C. Kiln-dry lumber after treatment to maximum moisture content of 19 percent. Kiln-dry plywood after treatment to maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency and other information required by authorities having jurisdiction.
  - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by testing agency.
- E. For exposed items indicated to receive a stained or natural finish, chemical formulations are not to bleed through, contain colorants, or otherwise adversely affect finishes.
- F. Application: Treat all miscellaneous rough carpentry unless otherwise indicated.
  - 1. Concealed blocking, including plywood used as blocking or nailers.
  - 2. Wood parapet caps and cants, nailers, curbs, equipment support bases, blocking, and similar members in connection with roofing.
  - ~~3. Plywood backing panels.~~
- G. Exposure: Plywood and parapet cap shall be exterior type and complying with requirements on Structural Drawings, General Notes.

## 2.4 WOOD-PRESERVATIVE- AND FIRE-RETARDANT TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWP A U1, Use categories as follows:
  - 1. UCFB (Commodity Specification H): Non-critical products, acceptable for exterior exposure; fire-retardant-treated under AWP A C20/C27.
  - 2. Product: Hoover Fire-X.

- B. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
- C. After treatment, redry boards and dimension lumber to 19 percent maximum moisture content.
- D. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- E. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- F. Application: Treat the following:
  - 1. Wood furring profiles that are installed over concrete slabs-on-grade and curbs.
  - 2. Wood blocking in wall cavities of exterior walls with batt insulation.
- G. Ensure separation between wood and framing with flexible flashing.

## 2.5 MISCELLANEOUS LUMBER

- A. Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
  - 1. Parapet caps.
  - 2. Blocking.
  - 3. Nailers.
  - 4. Rooftop equipment bases and support curbs.
  - 5. Cants.
  - 6. Furring.
  - 7. Grounds.
  - 8. Utility shelving.
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of the following species:
  - 1. Hem-fir; WCLIB or WWP.
  - 2. Western woods; WCLIB or WWP.
- C. Concealed Boards: 15 percent maximum moisture content and the following species and grades:
  - 1. Western woods; Construction or No. 2 Common grade; WCLIB or WWP.
- D. Roofing Nailers: Structural- or No. 2-grade lumber or better; kiln-dried Douglas fir, southern pine, or wood having similar decay-resistant properties.
- E. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

## 2.6 PLYWOOD BACKING PANELS FOR BLOCKING

- A. Equipment-Blocking Backing Panels: Plywood, DOC PS 1, Exterior, A-C, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.

## 2.7 FASTENERS

- A. General: Fasteners are to be of size and type indicated and comply with requirements specified in this article for material and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than 1-1/2 inches into wood substrate.
  - 1. Where rough carpentry is treated, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M or ASTM F2329 or of Type 304 stainless steel.
  - 2. For redwood, use stainless steel or hot-dip galvanized-steel fasteners.

## 2.8 MISCELLANEOUS MATERIALS

- A. Separator: Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.
- B. Noncombustible Filler: Mineral fiber insulation boards and strips, ASTM C612, Types IA, IB, II, III, IVA, 4.0 pcf. UL Type SAF, UL 1479 compliant.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.
- D. Install separators in accordance with manufacturer's written instructions.
- E. Install separator at all locations of treated wood in contact with metal framing as recommended by wood treatment manufacturer and as follows:
  - 1. Install separator to form continuous barrier between parapet wood cap and supporting framing.
- F. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- G. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  - 1. Table 2304.10.2, "Fastening Schedule," in OSSC.
  - 2. As indicated for compliance with performance requirements.

- H. Securely attach roofing nailers to substrates by anchoring and fastening to withstand bending, shear, or other stresses imparted by Project wind loads and fastener-resistance loads as designed in accordance with ASCE/SEI 7.
- I. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

### 3.2 INSTALLATION OF WOOD PARAPET CAP

- A. Attach wood roofing nailers securely to substrate to resist the designed outward and upward wind loads indicated on Drawings, in "Performance Requirements", and in accordance with ANSI/SPRI ED-1, Tables A6 and A7.

### ~~3.3 PLYWOOD PANEL INSTALLATION~~

- ~~A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural use panels and applications indicated.~~

- ~~1. Apply separator between wood and metal framing.~~

- ~~B. Fastening Methods: Fasten plywood panels as indicated below:~~

- ~~1. Screw to metal framing.~~
- ~~2. Space panels 1/8 inch apart at edges and ends.~~

- ~~C. Spacing, Fasteners: 6 inches on center edges, 12 inches on center in field.~~

- ~~1. Predrill for countersink fasteners flush with surface where exposed.~~

- ~~D. Orientation:~~

- ~~1. Horizontal, exposed over gypsum.~~
- ~~2. Horizontal, running bond with half panel offset at exposed in Mechanical Room.~~
- ~~3. Opposite of gypsum where concealed by gypsum~~

### ~~3.4.3~~ CONCEALED FIREBLOCKING

- A. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
  - 1. Fire block furred spaces behind casework at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces. Oversize noncombustible blocks by 25-percent in depth and 1/2-inch in length to compress.

### ~~3.5.4~~ PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION