

SECTION 06072

FIRE RETARDANT SHEATHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fire Retardant Roof Sheathing.
- B. Fire Retardant Wall Sheathing.
- C. Fire Retardant Decking.
- D. Fire Retardant Sub-Flooring.

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Framing and blocking to receive fire treated sheathing.
- B. Section 06200 - Finish Carpentry: Adjacent Work to receive fire treated sheathing.
- C. Section 06400 - Architectural Woodwork: Adjacent Work to receive fire treated sheathing.

1.3 REFERENCES

- A. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM D 3043 - Standard Test Method for Testing Structural Panels in Flexure.
- C. ASTM D 3201 - Standard Test Method for Hygroscopic Properties of Fire retardant Wood and Wood-Base Products.
- D. ASTM D5516 Standard Test Method for Evaluating the Flexural Properties of Fire Retardant Treated Softwood Plywood Exposed to Elevated Temperatures
- E. Boeing BSS 7239 Test Method for Toxic Gas Generation by Materials on Combustion
- F. IAPMO ES Evaluation Report 0158
- G. Intertek - ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials, Extended to 30 minutes.
 - 1. Class A Flame Spread Rating.
 - 2. Class 1 Smoke Development Value Rating
- H. University of Pittsburgh: Evaluation of the Acute Inhalation Toxicity of the Combustion Products of Materials Using the University of Pittsburgh Test Method

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
- C. Selection Samples: For each finish product specified, two complete sets of samples representing manufacturer's full range of available sizes.
- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by an experienced wood treatment firm, specializing in treatment of wood similar to that required for project, licensed by preservative manufacturer, and able to submit test reports showing successful treatment to retention level specified and evidence of ongoing independent third party inspection for products specified.
- B. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
1. Finish areas designated by Architect.
 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Prevent exposure to precipitation during shipping, storage or installation. Replace fire retardant wood that has become wet during shipping, storage or installation.
- C. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 WARRANTY

- A. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.
1. Duration: Twenty (20) years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: FLAMEDXX, LLC, which is located at: P. O. Box 280448,

Nashville, TN 37228; Tel: 615-297-2000; Fax: 615-297-2001; Web:
www.flamedxx.com

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 FIRE RETARDANT OSB SHEATHING

- A. Species and Grades: as specified in section 06100 or by the design criteria of the intended application.
- B. Labeling: Clearly marked in either permanent ink stamp or affixed label, sheathing must bear the wood treatment plant's quality mark and indicate the following:
 - 1. Manufacturer's name.
 - 2. Treatment plant name.
 - 3. Identification of independent inspection agency (Intertek).
- C. 7/16 Inch Panel:
 - 1. Span Rating: 24/16.
 - 2. Maximum Span:
 - a. With Edge Support: 24 inches (610mm).
 - b. Without Edge Support: 24 inches (610mm).
 - 3. Allowable Live Load (12 inch span / 24 inch span): 190 psf / 30 psf.
 - 4. Sheathing Design Capabilities (Parallel / Perpendicular to Strength Axis):
 - a. Bending Stiffness: 78,000 / 16,000 psf.
 - b. Bending Strength: 385 / 115 psf.
 - c. Axial Tension: 2600 / 1,300 psf.
 - d. Axial Compression: 3250 / 2,500 psf.
 - e. Axial Stiffness: 3,800,000 / 2,900,000 psf.
 - f. Shear (Plane): 150 / 150 psf.
 - g. Rigidity: 83,500 / 83,500 psf.
 - h. Shear (Thickness): 165 / 165 psf.
- D. 1/2 Inch (15/32 Inch) Panel:
 - 1. Span Rating: 32/16.
 - 2. Maximum Span:
 - a. With Edge Support: 32 inches (813mm).
 - b. Without Edge Support: 28 inches (711mm).
 - 3. Allowable Live Load (12 inch span / 32 inch span): 325 psf / 30 psf.
 - 4. Sheathing Design Capabilities (Parallel / Perpendicular to Strength Axis):
 - a. Bending Stiffness: 115,000 / 25,000 psf.
 - b. Bending Strength: 445 / 165 psf.
 - c. Axial Tension: 2800 / 1,650 psf.
 - d. Axial Compression: 3550 / 3,100 psf.
 - e. Axial Stiffness: 4,150,000 / 3,600,000 psf.
 - f. Shear (Plane): 165 / 165 psf.
 - g. Rigidity: 83,500 / 83,500 psf.
 - h. Shear (Thickness): 180 / 180 psf.
- E. 5/8 Inch (19/32 Inch) Panel:
 - 1. Span Rating: 40/20.
 - 2. Maximum Span:
 - a. With Edge Support: 40 inches (1016mm).
 - b. Without Edge Support: 32 inches (813mm).
 - 3. Allowable Live Load (16 inch span / 40 inch span): 305 psf / 30 psf.

4. Sheathing Design Capabilities (Parallel / Perpendicular to Strength Axis):
 - a. Bending Stiffness: 225,000 / 56,000 psf.
 - b. Bending Strength: 750 / 270 psf.
 - c. Axial Tension: 2900 / 2,100 psf.
 - d. Axial Compression: 4200 / 4000 psf.
 - e. Axial Stiffness: 5,000,000 / 4,500,000 psf.
 - f. Shear (Plane): 205 / 205 psf.
 - g. Rigidity: 88,500 / 88,500 psf.
 - h. Shear (Thickness): 195 / 195 psf.
- F. 3/4 Inch (23/32 Inch) Panel:
 1. Span Rating: 48/24.
 2. Maximum Span:
 - a. With Edge Support: 48 inches (1219mm).
 - b. Without Edge Support: 36 inches (914mm).
 3. Allowable Live Load (20 inch span / 48 inch span): 280 psf / 35 psf.
 4. Sheathing Design Capabilities (Parallel / Perpendicular to Strength Axis):
 - a. Bending Stiffness: 400,000 / 91,500 psf.
 - b. Bending Strength: 1000 / 405 psf.
 - c. Axial Tension: 4000 / 2,550 psf.
 - d. Axial Compression: 5000 / 4,300 psf.
 - e. Axial Stiffness: 5,850,000 / 4,500,000 psf.
 - f. Shear (Plane): 250 / 250 psf.
 - g. Rigidity: 96,000 / 96,000 psf.
 - h. Shear (Thickness): 220 / 220 psf.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Coordinate installation procedures with the appropriate Related Sections.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION