**SECTION 06 05 00**

**FIRE RETARDANTPENETRANTS**

\*\* NOTE TO SPECIFIER \*\*

This section is based on products manufactured by:

Flame Seal Products, Inc.

15200 West Drive Houston, Texas 77584

Tel: (713) 668 4291

Fax: (713) 668 1724

Email: dylan@flameseal.com

Web: www.flameseal.com

**PART 1 GENERAL**

* 1. **SECTION INCLUDES**
1. Wood Seal A™ – Fire Retardant Clear Penetrant Finish

**1.2 RELATED SECTIONS**

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

A. Section 06 05 00 - Common Work Results for Wood, Plastics, and Composites.

B. Section 06 10 00 - Rough Carpentry.

C. Section 06 20 00 - Finish Carpentry.

D. Section 06 40 00 - Architectural Woodwork.

E. Section 09 96 00 Intumescent Painting

**1.3 REFERENCES**

 \*\* NOTE TO SPECIFIER \*\* Delete any references below not relevant to this project; add others as required.

A. International Code Council (ICC):

1. 2018, 2015, 2012, International Building Code (IBC) 803.1.

2. 2018, 2015, 2012, International Residential Code (IRC) R302.9 & R315.1.

3. 2018, 2015, 2012, International Fire Code (IFC) 803.1.1.

4. 2018, 2015, 2012, International Existing Building Code (IEBC) 1205.09.

B. ASTM International (ASTM):

1. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

C. Intertek:

 1. Intertek Report No. 3127494SAT-001

D. National Fire Protection Association (NFPA):

1. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.

2. NFPA 703 - Standard for Fire Retardant Impregnated Wood and Fire-Retardant Coatings for Building Materials.

E. Underwriters Laboratory (UL):

1. UL 723 - Standard Test for Surface Burning Characteristics of Building Materials.

**1.4 SUBMITTALS**

A. Submit in accordance with Division 01 Section "Submittal Procedures".

B. Product Data:

1. Submit manufacturer's technical information indicating product performance characteristics, sustainable design information, limitations, application instructions, and warranty requirements.

2. Submit Material Safety Data Sheets (MSDS) including Volatile Organic Compounds (VOC).

C. Test Reports: Submit published listings and test results for each product to be installed.

D. Certificates: Submit manufacturer certificates for each type of fire retardant coating or spray, signed by the manufacturer, certifying that materials and substrate conditions comply with specified performance characteristics and physical properties.

E. Qualifications: Submit manufacturer and installer qualifications.

F. Shop Drawings: If requested, submit drawings to indicate system configurations and application procedures including the following:

1. Substrates, materials, and adjacent construction.

2. Installation extents, thicknesses, typical and special conditions.

3. Safety requirements.

G. Samples: If requested, submit samples of each exposed finish for approval of texture, color, edge treatments, or special conditions. Minimum size 12 x 12 inches (300 x 300 mm) by full thickness on each substrate to be provided.

H. Closeout Submittals: Maintenance instructions and warranty.

**1.5 QUALITY ASSURANCE**

A. Single Source Responsibility: Products shall be manufactured as a complete system from a single manufacturer, applied to substrates and finished in accordance with manufacturer's instructions and limitations.

B. Confirm each material and fire-retardant requirement with current local Fire Safety Codes.

C. Qualifications:

1. Manufacturer Qualifications: Minimum ten (10) years' experience producing fire retardant coatings of the size and complexity of this project and with the production facilities capable of meeting the project schedule.

2. Installer Qualifications: Certified by the manufacturer.

E. Compatibility and Adhesion Testing:

1. Where substrates and adjacent materials are not explicitly addressed in manufacturer's installation instructions, test for bond in accordance with UL Fire Resistance Directory for coating materials.

2. Verify that manufacturer has not found substrate materials, primers, or adjacent coatings to be incompatible.

**1.6 DELIVERY, STORAGE AND HANDLING**

1. Deliver, store, and handle in accordance with the manufacturer's instructions.
2. Deliver packaged materials in original unopened containers marked to indicate brand name, manufacturer, certification markings and classifications. Damaged or opened containers will be rejected.

**1.7 PROJECT CONDITIONS**

A. Exterior Work: Do not install in snow, rain, fog, or temperatures outside the manufacturer's limits.

B. Interior Work: Maintain temperature and relative humidity within the manufacturer's instructions. Ensure adequate ventilation is provided for product curing and exhaust to the exterior.

C. Coordinate application with other construction to minimize need to cut or remove installed products.

**1.8 WARRANTY**

A. Product Warranty: Manufacturers standard limited warranty against deficiencies in materials or fabrication.

**PART 2 PRODUCTS**

**2.1 MANUFACTURERS**

A. Flame Seal Products, Inc. 15200 West Drive Houston, Texas 77053 Tel: (713) 668 4291 Fax: (713) 668 1724 Email: dylan@flameseal.com Web: www.flameseal.com

 \*\*NOTE TO SPECIFIER\*\* Delete if not required.

**2.2 Interior fire-retardant spray for unfinished wood.**

A. Wood Seal A™ is a water-based fire-retardant treatment for raw untreated softwoods for interior applications only. Wood Seal A™ meets Class A standards when tested to the ASTM E 84 Flame Spread Test.

1. Intertek Report No. 3127494SAT-001

2. ASTM E84:

a. Flame Spread Index: 25.

b. Smoke Developed Index: 50.

3. UL 723.

4. NFPA 703

Provide with manufacturer's dye to distinguish treated and untreated areas, if required.

1. Acceptable Substrates Include: Southern Yellow Pine, Cedar, Douglas Fir, Spruce, Larch, Reclaimed Woods, other porous softwoods, and sheathings. For Hardwood applications please view Wood Seal A’s Application Guide at [www.flameseal.com](http://www.flameseal.com).
2. Comply with manufacturer's written application instructions
3. Do not install in areas with constant relative humidity over 80%.
4. Do not install with moisture content of the wood exceeds 11%.
	* 1. **FINISHES**

1. If the substrate may be subject to high humidity, the use of a sealer will be required. Flame Seal Recommends 421-6300 Chemlife 24 Conversion Varnish Sealer. All of Wood Seal A™ application instructions must be FULLY met before applying the Chemlife.
2. Wood Seal A™ has is a unique proprietary formulation that is solely focused on fire performance. Topcoats and stains can sometimes react with Wood Seal A™. When a topcoat or stain is required, it is the responsibility of the customer to check for the compatibility of the two products.

**PART 3 EXECUTION**

**3.1 MANUFACTURERS INSTRUCTIONS**

A. Comply with manufacturer's written recommendations including technical bulletins, handling, storage, installation, and warranty requirements.

B. Do not dilute products or allow products to freeze.

C. Do not use products beyond manufacturer's stated shelf life.

**3.2 EXAMINATION**

A. Examine substrates and installation areas with installer present, for compliance with manufacturer's instructions and conditions that might affect performance of the Work. Verify the following:

1. Substrates are clean, dry, free of dirt, oil, grease, release agents, compounds, lubricants, scale, rust, incompatible primers or agents, paints, encapsulates or foreign substances capable of impairing bond under conditions of normal use or fire exposure.

2. Objects penetrating coated areas (clips, hangers, piping, sleeves, equipment etc.) shall be securely attached and complete.

3. Substrates to receive fire retardant products shall not be obstructed by ducts, piping, equipment, or other construction that will interfere with application.

B. Prepare written report listing conditions that will interfere with installation.

1. Do not proceed until unacceptable conditions are corrected.

**3.3 PREPARATION**

1. Clean and prepare substrates in accordance with manufacturer's instructions.
2. The moisture content of the wood must be below 11%.
3. Protect adjacent construction from overspray or unintended installation.
4. The substrate should be sanded using 120, 150, or 180 grit sandpaper before coating.
5. Check temperature and humidity ranges prior to the application.
6. Do not proceed until unacceptable conditions are corrected.

**3.4 INSTALLATION**

A. Apply in accordance with the manufacturer's instructions, including substrate temperatures and relative humidity, to achieve recommended thickness and application rates to cover substrates with a monolithic coating of uniform density and texture.

B. Interior fire-retardant spray for unfinished wood (Wood Seal A™):

1. Agitate product before and throughout application.

2. Spray with hand-pump sprayer, high volume low-pressure system, roller, or brush. Ensure manufacturer's dye (optional) is visible in completed areas.

4. Coverage rate will vary between 200-350 sq. ft. per gallon.

3. Drying time from 8 to 32 hours depending on temperature and humidity.

**3.5 FIELD QUALITY CONTROL**

A. Where requested, provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of installation in accordance with the manufacturer's instructions.

B. Where field-testing is required, observe and test in accordance with the manufacturer's instructions utilizing an independent testing agency acceptable to the local building authority, if required.

**3.6 CLEANING**

A. Clean in accordance with the manufacturer's instructions, typically soap and water.

B. Immediately remove fire retardant materials from other surfaces immediately after application.

C. Remove all debris from the project site in accordance with the Owner's construction waste management requirements.

**3.7 PROTECTION**

A. Protect from dirt, damage, and cutting caused by subsequent construction activities.

**3.8 MAINTENANCE**

A. Clean and retreat surfaces in accordance with the manufacturer's instructions.