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## SECTION 07814 EXTERIOR INTUMESCENT FIREPROOFING

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### PART 1 - GENERAL

#### 1.01 WORK INCLUDED

- A. Preparing surfaces to receive fireproofing.
- B. Protection of adjacent surfaces from overspraying.
- C. Spray application of solvent based, intumescent, fireproofing on exterior exposed structural steel wide flange columns, beams, pipe columns, and related exposed structural steel to provide rated fireproofing.

#### 1.02 RELATED WORK

- A. Section [\_\_\_\_ - \_\_\_\_\_]: Building structural substrate surfaces.
- B. Section 05120 - Structural Steel.
- C. Section 05210 - Steel Joists.
- D. Section 05310 - Steel Decking.

#### 1.03 REFERENCES

- A. ASTM D256 - Impact Resistance Test.
- B. ASTM D638 - Tensile Strength.
- C. ASTM D695 - Standard Test Method for Compressive Strength.
- D. ASTM D790 - Standard Test Method for Flexural Strength.
- E. ASTM D1002 - Standard Test Method for Bond Strength.
- F. ASTM D1044 - Standard Test Method for Abrasion Resistance Test.
- G. ASTM D4541 - Bond Strength.
- H. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.
- I. ASTM E119 - Fire Tests of Building Construction and Materials.
- J. ASTM D696 - Standard Test Method for Coefficient of Thermal Expansion and Contraction
- K. ASTM F433 - Thermal Conductivity.
- L. U.L., Inc. - Fire Resistance Directory.

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## WARRANTY

LIMITED WARRANTY/LIMITATION OF LIABILITY: Seller warrants that its products will meet the specifications which it sets for them. Seller's responsibility under this warranty will be limited solely to replacing the products which prove defective, provided that Buyer gives Seller prompt notice in writing of said defect and satisfactory proof thereof. Products may be returned to Seller only after written authorization has been obtained from Seller. The foregoing warranty is in lieu of all other warranties, whether oral, written, express, implied or statutory. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WILL NOT APPLY. Technical or other advice is furnished by us solely as an accommodation and shall not increase the scope of our responsibilities or liability. Seller's warranty obligations and Buyer's remedies hereunder are solely and exclusively as stated herein: In no event will Seller be liable either for the labor and other associated costs incurred in replacing the product, including, but not limited to, its removal and application, or for other incidental or consequential damages.



- M. U.L., Inc. UL 263 - Fire Tests of Building Construction and Materials
- N. U.L. Inc. UL 1709 - Simulated Interior and Exterior Accelerated Environment Tests.
- O. SSPC-SP-1 Solvent Cleaning - Steel Structures Painting Council (SSPC).
- P. SSPC-SP-2 Hand Tool Cleaning - Steel Structures Painting Council (SSPC).
- Q. SSPC-SP-3 Power Tool Cleaning - Steel Structures Painting Council (SSPC).
- R. SSPC-SP-6 Commercial Blast Cleaning - Steel Structures Painting Council (SSPC).

#### **1.04 PERFORMANCE REQUIREMENTS**

- A. Intumescent fireproofing system to provide a fire rating of one, two, or three hours.

#### **1.05 SUBMITTALS**

- A. Submit product data under provisions of Section [01300.] [\_\_\_\_.].
  - 1. Indicate product characteristics, performance, and limitation criteria.
- B. Submit manufacturer's installation instructions under provisions of Section [01300.] [\_\_\_\_.].
- C. Submit manufacturer's certificate under provisions of Section [01400] [\_\_\_\_] that products meet or exceed specified requirements.
- D. Submit test reports under provisions of Section [01400] [\_\_\_\_].
- E. Submit applicator's current certification, by product manufacturer, as a factory trained and manufacturer approved installer of this product.
- F. U.L. Inc. Designs Numbers

#### **1.06 QUALITY ASSURANCE**

- A. Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum twenty-five years documented experience.
- B. Applicator: Company specializing in applying the work of this Section with minimum 3 years documented experience and approved by manufacturer.

#### **1.07 REGULATORY REQUIREMENTS**

- A. Conform to applicable code for fire resistance ratings.
- B. Submit certification of acceptability of fireproofing materials to authority having jurisdiction and to Architect.

#### **1.08 MOCKUP**

- A. Provide mockup of applied intumescent fireproofing under provisions of Section [01400.] [\_\_\_\_.].

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**Albi**

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**ALBI CLAD 800**  
(Exterior Intumescent Fireproofing)  
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- B. Provide testing and analysis of mockup to manufacturer's published data.
- C. Apply sample section of 100 sq ft in size to representative substrate on site.
- D. Comply with project requirements as to thickness, density, fire rating, and finish texture.
- E. Examine installation to determine variances.
- F. If accepted, mockup will demonstrate minimum standard for the Work. Mockup may remain as part of the Work.

#### **1.09 ENVIRONMENTAL REQUIREMENTS**

- A. When temperature is less than 40F, follow manufacturer's field instructions for cold weather installation. So not apply when surface temperature is less than 5 degrees F above the dew point.
- B. Provide ventilation in areas to receive fireproofing during and 72 hours, minimum, after application, to dry materials and dissipate solvent odors.
- C. Maintain non-toxic, unpolluted working area. Provide temporary enclosure to prevent spray from contaminating air.

#### **1.10 SEQUENCING AND SCHEDULING**

- A. Sequence work under provisions of Section [\_\_\_\_.]
- B. Sequence work in conjunction with placement of ceiling hanger tabs, mechanical component hangers, and electrical components.

#### **1.11 WARRANTY**

- A. Provide one year manufacturer's warranty under provisions of Section [01700.] [\_\_\_\_.]
- B. Provide one year applicator's warranty under provisions of Section [01700.] [\_\_\_\_.]
- C. Warranty: Fireproofing to remain free from cracking, checking, dusting, flaking, spalling, separation, and blistering. Reinstall or repair such defects or failures.

### **PART 2 - PRODUCTS**

#### **2.01 ACCEPTABLE MANUFACTURERS**

- A. Albi Manufacturing, East Berlin, CT (860) 828-0571; "ALBI CLAD 800."

#### **2.02 MATERIALS**

- A. Intumescent Fireproofing: Single component, solvent based, factory mixed, asbestos free, intumescent material blended for uniform texture; conforming to the following requirements:
  1. Bond Strength: ASTM D4541, 375 lb/sq. in. when set and dry.
  2. Impact Resistance: ASTM D256, 0.54 ft. lbs. per inch of notch
  3. Dry Density: ASTM E605, average density of 68 lb/cu ft.
  4. Surface Burning Characteristics, ASTM E84:

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- a. Flame Spread: 15.
  - b. Smoke Developed: 40
  5. Compressive Strength: ASTM D695 average 2,100 lb/sq. in.
- B. Primer: Albi 487S, 490W, or type recommended or approved by fireproofing manufacturer.
- C. Reinforcing Mesh: Fiberglass weighing minimum 6.0 grams per square foot.
- D. Solvent: Type recommended or approved by fireproofing manufacturer.

### **PART 3 - EXECUTION**

#### **3.01 INSPECTION**

- A. Verify that surfaces are ready to receive work.
- B. Verify that clips, hangers, supports, sleeves, and other items required to penetrate fireproofing are in place.
- C. Verify ducts, piping, equipment, or other items which would interfere with application of fireproofing are not positioned until fireproofing work is complete.
- D. Verify that voids and cracks in substrate are filled, and projections are removed where fireproofing is exposed to view as a finish material.
- E. Beginning of installation means applicator accepts existing substrate.

#### **3.02 PREPARATION**

- A. Work in accordance with SSPC guidelines SSPC-SP-1, SSPC-SP-2, SSPC-SP-3, or SSPC-SP-6 as appropriate to prepare substrate.
- B. Clean substrate of dirt, dust, grease, oil, loose material, or other matter which may effect bond of fireproofing.
- C. Seal all penetrations or open ended fireproofing termination by chamfering at a 45 degree angle and sealing with high heat silicone sealant.
- D. Install reinforcement over structural members as indicated on Drawings, or U.L. Fire Resistance Directory Listings.

#### **3.03 PROTECTION**

- A. Protect floor areas from this Work by completely covering with tarps or 4 mil polyethylene sheets.
- B. Protect adjacent surfaces and equipment from damage by overspray, fall-out, and dusting.
- C. Close off and seal ductwork in areas where fireproofing is being applied.

#### **3.04 APPLICATION**

- A. Apply primer and fireproofing in accordance with manufacturer's instructions. Do not apply to surfaces which would prohibit proper adhesions.

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- B. Apply primer according to primer manufacturer's recommendations. Provide primer "cut-back" three inches for bolted connections and 12 inches for welded connections.
- C. Apply fireproofing in sufficient thickness to achieve rating, with as many passes necessary to cover with monolithic blanket of uniform hardness, density and texture. Spray, and roll smooth the finished surface.

**3.05 FIELD QUALITY CONTROL**

- A. Field inspection and testing will be performed using manufacturer's guidelines under provisions of Section [01400.] [\_\_\_\_.].
- B. Inspections will be performed to verify compliance with requirements.
- C. Patch fireproofing, which has been cut away to facilitate work of other trades, so as to maintain complete coverage of full thickness on appropriate substrate.
- D. Correct unacceptable Work and provide further inspection to verify compliance with requirements, at no cost.

**3.06 CLEANING**

- A. Clean work under provisions of Section [01700.] [\_\_\_\_.].
- B. Remove excess material, overspray, droppings, and debris.
- C. Remove fireproofing from materials and surfaces not specifically required to be fireproofed.

**PART 4 - SCHEDULE**

**4.01 SCHEDULE OF FIREPROOFING**

- A. \_\_\_\_\_
  - 1. Components:
  - 2. U.L., Inc. Rating: [ 1 ][ 2 ][ 3 ] hours.
- B. \_\_\_\_\_
  - 1. Components:
  - 2. U.L., Inc. Rating: [ 1 ][ 2 ][ 3 ] hours.
- C. \_\_\_\_\_
  - 1. Components:
  - 2. U.L., Inc. Rating: [ 1 ][ 2 ][ 3 ] hours.

END OF SECTION

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