

ADDENDUM #2

**CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503**

B2014-09

Bid for Transit Office Remodel and Training Room Expansion

ADDENDUM # 2

THE FOLLOWING CHANGES ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF SUBJECT BID:

CHANGE: Bid Due Date changed to **Thursday, March 6, 2014 by 3:00 PM** in the City Clerk's office.

CHANGE: Section 7260 Part 2- Products 2.02 Intumescent Fire Protection System
Due to new VOC regulations per S.C.A.Q.M.D. the Nullifire S605 Intumescent Fireproofing is no longer VOC compliant. Substitute Thermo-Lag E100S and the specifications for Thermo-Lag E100S are attached. All other portions of Section 7260 remain in effect.

CLARIFY: You must be on the plan holders list in order to bid this project. In order to be added to the plan holders list, you need to contact the City Clerk's office and pick up the official bid proposal forms. They can be reached at 310-618-2870. Only those who are on the plan holders list will receive the addenda.

February 25, 2014

Please return this addendum with your bid proposal.
I hereby acknowledge receipt of this addendum.

Name of Company

Address

City State Zip Code



**Carboline® Thermo-Lag® E100 S Guide Specification
Section 07812 - Intumescent Fire Resistive Material (IFRM) for exterior/interior applications**

PART 1 - GENERAL

1.1 SCOPE

- 1.1.1 This specification covers labor, materials, equipment, and application necessary for, and incidental to, the complete and proper installation of intumescent fire protection for application to steel structures and supports in accordance with all applicable requirements of contract documents.
- 1.1.2 This specification shall be supplemented by the applicable requirements of building codes, insurance rating organizations and all other authorities having jurisdiction.

1.2 SECTION INCLUDES

- 1.2.1 Intumescent fire protection material.
- 1.2.2 Topcoat protective decorative finish.

1.3 RELATED SECTIONS

- 1.3.1 Section 05100: Structural Steel.
- 1.3.2 Section 05120 - 05500: Structural steel and metal fabrications with reference to primer receiving fire protection materials.
- 1.3.3 Section 07811: Spray-Applied Fire Resistive Material.
- 1.3.4 Section 07270: Firestopping and Smoke Seals.
- 1.3.5 Section 09900: Painting.

1.4 REFERENCES

- 1.4.1 Underwriters Laboratories Inc. (UL) Fire Resistance Directory.
- 1.4.2 Intertek Laboratories Certification Directory
- 1.4.3 Test Standards
 - A. UL 263 (ASTM E119) - Fire Tests of Building Construction and Materials.
 - B. CAN/ULC-S101 - Standard Methods of Fire Endurance Tests of Building

Construction and Materials.

- C. ASTM E84 (UL723, CAN/ULC-S102) - Surface Burning Characteristics of Building Materials. Class A Rating Required; Flame Spread Maximum: 0 and Smoke Developed Maximum: 20.
- D. ASTM D2240 – Durometer Hardness (Shore D Only). Minimum: 50 Shore D.
- E. ASTM D2794 – Impact Resistance. Average: 0.75 ft*lbs/in
- F. ASTM D695 – Compressive Strength. 2,330 psi (16.0 MPa)
- G. ASTM D4541 – Bond Strength. Minimum: 300 psi (2.0 MPa.)

- 1.4.4 Steel Structures Painting Council (SSPC) Surface Preparation Standards.
- 1.4.5 Material manufacturer's current published information including, but not limited to, application guide.
- 1.4.6 AWCI Technical Manual 12-B "Standard Practice for the Testing and Inspection of Field Applied Thin-Film Intumescent Fire-Resistive Materials; an Annotated Guide", Latest Edition.

1.5 SYSTEM DESCRIPTION

- 1.5.1 The intumescent fire protection materials shall be applied at the required thickness to provide the UL or Intertek fire resistive ratings.

1.6 SUBMITTALS

- 1.6.1 Manufacturer's Data: Submit manufacturer's specifications, including independent laboratory physical property test reports and certifications as may be required to show material compliance with contract documents.

1.7 QUALITY ASSURANCE

- 1.7.1 Manufacturer - Company specializing in manufacturing fire protection products.
- 1.7.2 The intumescent fire resistive material shall be manufactured under the Follow-Up Service program of UL or Intertek and bear the UL and/or Intertek label (mark).
- 1.7.3 Applicator - A firm with expertise in the installation of fire resistive or similar materials.
- 1.7.4 Product - The product shall be approved by the architect and applicable authorities having jurisdiction.

1.8 DELIVERY, STORAGE AND HANDLING

- 1.8.1 Deliver materials to the project in manufacturer's unopened packages, fully identified as to trade name, type and other identifying data. Packaged materials shall bear the appropriate labels, seals and UL label (mark) for fire resistive ratings and shall be stored at temperatures between 32° F (0° C) and 100° F (38° C), in a dry interior location away from direct sunlight.

1.9 PROJECT/SITE CONDITIONS

- 1.9.1 When the temperature at the job site is less than 41° F (5° C), a minimum substrate and ambient temperature of 41° F (5° C) shall be maintained prior to and during application. If necessary for job schedule, the General Contractor shall provide enclosures and heat to maintain proper temperatures and humidity levels in the application areas.
- 1.9.2 In enclosed areas, ventilation shall not be less than 4 complete air exchanges per hour until the material is dry.
- 1.9.3 Relative humidity shall not exceed 85% throughout the total period of application and drying for the intumescent fire resistive material, and must not exceed 85% throughout the application and drying for the protective decorative topcoat.

1.10 SEQUENCING AND SCHEDULING

- 1.10.1 Applicator shall cooperate in the coordination and scheduling of fire protection work to avoid delays in job progress.
- 1.10.2 The installation of piping, ducts, conduit or other suspended equipment shall not commence until the application of the thin-film fire resistive material is complete in that area.

PART 2 - PRODUCTS

2.1 COMPATIBLE METAL PRIMER

- 2.1.1 Primer shall be approved by manufacturer and applied in full accordance with the primer manufacturer's written instructions.

2.2 INTUMESCENT FIRE PROTECTION SYSTEM

- 2.2.1 The intumescent fire resistive material shall be Thermo-Lag® E100 S as supplied by Carboline®. Local Representative contact: Janine Carraway (949) 632-4138; jcarraway@carboline.com.
- 2.2.2 Intumescent fire resistive material shall be applied in accordance with drawings and/or specifications, and shall have been tested in accordance with the procedures of UL 263

or ASTM E119 or CAN/ULC-S101, and reported by Underwriters Laboratories, Inc. or Intertek Laboratories.

- 2.2.3. Thin-Film Fire-Resistive Intumescent Mastic Coating: Factory-mixed formulation.
- A. Epoxy-Based Formulation: Approved by manufacturer and authorities having jurisdiction for indicated use.
 - B. Verify with manufacturer that products selected are suitable for use indicated.
 - C. UL and Intertek fire tested designs based on UL 263 (ASTM-E119).
 - D. Minimum Shore D Hardness of 40 before the topcoat and finish coat is applied.
 - E. Meets UL Interior Conditioned Space Classification Requirements without a topcoat.
 - F. A representative mock-up sprayed Architectural finish sample must be submitted, reviewed, and accepted by the architect in advance.

2.3 TOPCOATING

- 2.3.1 Topcoat materials shall be as required for color-coding, aesthetics or additional surface protection, and approved by the thin-film fire resistive material manufacturer.
- 2.3.2 For interior general purpose and exterior applications, a Carboline[®] approved topcoat must be applied over the Thermo-Lag[®] E100 S per the specified UL or Intertek design listings.
- 2.3.3 For exterior applications, exterior finish coat materials are required over Thermo-Lag[®] E100 S for color-coding, aesthetics, and additional surface protection: Carboguard 1340 with Carbothane 133 HB or Carbothane 133MC, as required by test design for exterior exposure. Or other topcoat approved by the thin-film fire resistive manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

- 3.1.1 All surfaces to receive thin-film fire resistive material shall be clean, dry and free of oil, grease, loose mill scale, dirt, dust or other materials which would impair bond of the thin-film fire resistive material to the surface. Any cleaning of the surfaces to receive fire resistive material shall be the responsibility of the General Contractor or steel erector, as outlined in the structural steel section.
- 3.1.2 Confirm compatibility of surfaces to receive thin-film fire resistive material. Steel surfaces shall be primed with a compatible primer approved by the thin-film fire resistive material manufacturer.
- 3.1.3 Provide masking, drop cloths or other suitable coverings to prevent overspray onto surfaces not intended to be coated with intumescent coating.

3.2 APPLICATION

- 3.2.1 The thin-film fire resistive material shall be applied at the required dry film thickness per the appropriate design number guidelines and manufacturers written application instructions.

3.3 MOCK UP

- 3.3.1 Before proceeding with the work, the applicator shall apply the thin-film fire resistive material to a section witnessed by the architect's or owner's representative. The application shall be subject to their approval and shall be used as a guide for texture and thickness of the finished work. Repairs shall be in accordance with tested design guidelines and manufacturers written application instructions.

3.4 CLEAN UP AND REPAIR

- 3.4.1 Upon completion of installation, all excess material, overspray and debris shall be cleared and removed from the job site.
- 3.4.2 All patching of and repair to thin-film fire resistive material, due to damage by other trades, shall be performed under this section and paid for by the trade responsible for the damage. Patching shall be performed by an applicator with expertise in the installation of fire resistive or similar materials.

3.5 INSPECTION AND TESTING

- 3.5.1 In addition to continuous Wet Film Thickness checks performed by applicator during application, the installed intumescent material shall be inspected by a qualified independent testing laboratory for thickness in accordance with the AWC I Technical Manual 12-B "Standard Practice For The Testing and Inspection of Field Applied Thin-Film Intumescent Fire-Resistive Materials; an Annotated Guide", Latest Edition, before application of the topcoat.
- 3.5.2 The results of the above tests shall be made available to all parties at the completion of each area and approved prior to the application of topcoat.

3.6 FIREPROOFING SCHEDULE