PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. This section covers labor, materials, equipment, and application necessary for, and incidental to, the complete and proper installation of intumescent fire paint for application to exposed steel columns in accordance with all applicable requirements of contract documents.
   2. This section shall be supplemented by the applicable requirements of building codes, insurance rating organizations and all other authorities having jurisdiction.
   3. This Section includes intumescent fire protection materials and protective decorative finish on all exposed fire rate steel located in the building interior.

B. Related Sections:
   1. Section 05 12 00 - Structural steel framing for Factory Applied Steel Primers.
   2. Section 07 81 00 – Applied Fireproofing for fire-resistance rated fireproofing at concealed interior and exterior steel.
   3. Section 09 90 00 - Painting
   4. Section 09 96 00 - High Performance Coatings

1.02 REFERENCES

A. UL - List of Equipment and Materials.
B. Test Standards:
   1. ASTM E119 - Fire Tests of Building Construction and Materials
   2. ASTM E84 - Surface Burning Characteristics of Building Materials

1.03 SYSTEM DESCRIPTION

A. The intumescent fire protection materials shall be applied at the required thickness to provide the required fire resistance ratings.

1.04 SUBMITTALS

A. General: Submit the following in accordance with Section 01 33 00 with the following supporting data:
   1. Manufacturer's Data: Submit manufacturer's specifications, including certification as may be required to show material compliance with contract documents.

B. Samples for Verification: For each product to be applied, with texture to simulate actual conditions, on representative Samples of actual substrate.
1. Submit sample on the following substrates for Architect's review of color and texture only:
   a. Painted Metal: 2-inch square Samples of each topcoat finish color.

C. LEED Submittals:

1.05 QUALITY ASSURANCE
   A. Manufacturer - Company specializing in manufacturing products of this section.
   B. Applicator - A firm with expertise in the installation of fire protection or similar materials. This firm shall be licensed or otherwise approved by the protection material supplier.
   C. Product - The product shall be approved by the architect and applicable authorities having jurisdiction.
   D. Applicator Qualifications: A firm or individual experienced in applying intumescent paints similar in material, design, and extent to those indicated for the Project, whose work has resulted in applications with a record of successful in-service performance.
   E. Fire-Test-Response Characteristics:
      1. Provide intumescent paints with the following surface-burning characteristics as determined by testing identical products per ASTM E 84, by UL, or by another testing and inspecting agency acceptable to authorities having jurisdiction:
         a. Flame-Spread Index: 25 or less.
         b. Smoke-Developed Index: 450 or less.
      2. Provide intumescent paints with the required fire resistance ratings as determined by testing per ASTM E 119, by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
         a. UL designs for each type of structural member achieving the required hourly fire rating.
   F. VOC Content: Provide intumescent paints with the following VOC content level for pigmented fire-retardant coatings:
      1. VOC: 350 or Less

1.06 DELIVERY, STORAGE AND HANDLING
   A. Deliver materials to the project in manufacturer's unopened packages, fully identified as to trade name, type and other identifying data. Packaging shall bear the appropriate labels and seals for one resistance ratings and shall be stored at temperatures above 40 degrees F, in a dry location.

1.07 PROJECT/SITE CONDITIONS
   A. Environmental Limitations: Do not apply fireproofing when ambient or substrate temperature is outside of manufacturer’s recommended application range.
   B. All surfaces are to be frost free, prior to installation.
C. Ventilation: Ventilate building spaces during and after application of fireproofing, providing complete air exchanges according to manufacturer's written instructions.

1.08 SEQUENCING AND SCHEDULING
   A. Applicator shall cooperate in the coordination and scheduling of fire protection work item to avoid delays in job progress.
   B. The installation of piping, ducts, conduit or other suspended equipment shall not commence until the application of the fire protection is complete in that area.

PART 2 PRODUCTS

2.01 MANUFACTURERS
   Albi Fireproofing Products as manufactured by Albi Manufacturing Division of Stan-Chem Incorporated East Berlin, CT 860.828.3297 shall be the only materials approved for use in Cleveland Clinic facilities.

   • Interior applications – must be listed for “General Purpose” applications by UL and shall not require the use of a top coat as part of the system.
     - Albi Clad TF  Water based thin film intumescent fireproof coating
     - Albi Clad FP  Water based thin film intumescent fireproof coating

   • Exterior Applications – must be listed for “Exterior” applications by UL and shall not require the use of a top coat as a component of the system.
     - Albi Clad 800  Solvent based single component intumescent mastic coating.

2.02 PRIMER
   A. Primer shall be approved by manufacturer and applied in accordance with the primer manufacturer's written instructions.

2.03 INTUMESCENT FIRE PROTECTION SYSTEM
   A. Thickness: Provide material applied at spreading rate recommended by manufacturer to achieve the required fire rating based on thickness of steel.

2.04 FIRE RATING
   A. Furnish and install manufacturer's UL system required to provide hourly rating as indicated on the construction drawings.
PART 3 EXECUTION

3.01 PREPARATION
A. All surfaces to receive are protection material shall be clean, dry and free of oil, grease, loose mill scale, dirt, dust or other materials which would impair bond of the fire protection material to the surface. Any cleaning of the surfaces to receive fire protection material shall be the responsibility of the General Contractor or steel erector, as outlined in the structural steel section.
B. Confirm compatibility of surfaces to receive one protection material. Steel surfaces shall be primed with a compatible primer recommended by the protection material manufacturer.
C. Provide masking, drop cloths, or other suitable coverings to prevent overspray onto surfaces not intended to be sprayed with intumescent coating.

3.02 APPLICATION
A. The fire protection material shall be applied in sufficient wet film thicknesses to achieve the required fire resistance rating with as many passes as necessary, to attain required dry film thickness.

3.03 MOCK UP
A. Before proceeding with the work, the applicator shall apply the fire protection material to a section witnessed by the Architect's or Owner's representative and shall be subject to their approval.

3.04 CLEAN UP AND REPAIR
A. Upon completion of installation, all excess material, overspray, crowing and debris shall be cleared and removed from the job site.
B. All patching of and repair to are protection material, due to damage by over trades, shall be performed under this section and paid for by the trade responsible for the damage.

3.05 FIELD QUALITY CONTROL
A. Special Inspections: Owner shall a qualified special inspector to perform the following special inspections:
B. Test and inspect as required by the IBC, 1704.11.
C. Perform the tests and inspections of completed Work in successive stages. Do not proceed with application of fireproofing for the next area until test results for previously completed applications of fireproofing show compliance with requirements. Tested values must equal or exceed values as specified and as indicated and required for approved fire-resistance design.
   1. Fireproofing will be considered defective if it does not pass tests and inspections.
      a. Remove and replace fireproofing that does not pass tests and inspections, and retest.
b. Apply additional fireproofing, per manufacturer's written instructions, where test results indicate insufficient thickness, and retest.

D. CLEANING, PROTECTING, AND REPAIRING

1. Cleaning: Immediately after completing spraying operations in each containable area of Project, remove material overspray and fallout from surfaces of other construction and clean exposed surfaces to remove evidence of soiling.

2. Protect fireproofing, according to advice of manufacturer and Installer, from damage resulting from construction operations or other causes, so fireproofing will be without damage or deterioration at time of Substantial Completion.

3. As installation of other construction proceeds, inspect fireproofing and repair damaged areas and fireproofing removed due to work of other trades.

4. Repair fireproofing damaged by other work before concealing it with other construction.

5. Repair fireproofing by reapplying it using same method as original installation or using manufacturer's recommended trowel-applied product.

END OF SECTION 07 81 23