SECTION 09 96 46

INTUMESCENT PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Intumescent paint for interior and exterior items and surfaces.

1.2 ACTION SUBMITTALS

A. Product Data: Submit technical data and information for block fillers, primers, paints, and coatings, including label analysis and instructions for handling, storing, and applying each intumescent paint system proposed for use.

B. Samples: Submit for each type of coating system and each color and gloss of intumescent paint finish indicated.

1. Submit Samples on rigid backing, not less than 8 inches (200 mm) square.
2. Apply coats on Samples in steps to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

C. Product Schedule: Use same designations indicated on Drawings to cross reference paint systems specified. Include color designations.

1.3 INFORMATIONAL SUBMITTALS

A. Material Test Reports: Submit for each intumescent paint.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company having minimum 5 years documented experience in the manufacture of intumescent paints.

B. Applicator Qualifications: Entity having minimum five years documented experience in applying coatings similar in material, design, and approved by intumescent manufacturer.

C. Source Limitations: Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

D. Mockups: Apply mockups of each paint system indicated to verify preliminary selections and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each coating system.
   a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
   b. Other Items: Architect will designate items or areas required.
2. Final approval of color selections will be based on mockups.
   a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed work if undisturbed at time of Substantial Completion.

E. Preinstallation Conference: Conduct conference at Project site.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well ventilated areas with ambient temperatures continuously maintained at not less than 45 degrees F (7 degrees C).
   1. Maintain containers in clean condition, free of foreign materials and residue.
   2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

A. Apply waterborne intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 50 degrees F and 90 degrees F (10 degrees C and 32 degrees C).

B. Apply solvent thinned intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 45 degrees F and 95 degrees F (7 degrees C and 35 degrees C).

C. Do not apply intumescent paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures of less than 5 degrees F (3 degrees C) above dew point; or to damp or wet surfaces.

D. Allow wet surfaces to dry thoroughly and to attain temperature and conditions specified before starting or continuing coating operation.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match materials applied and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Quantity: Furnish an additional 5 percent of each color applied, but not less than 1 gallon (3.8 L) of each material and color applied.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface Burning Characteristics of Intumescent Paint Systems: Tested according to ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
   1. Flame Spread Index: 25 or less.
   2. Smoke Developed Index: 450 or less.

B. Physical Properties:
   1. Bond Strength: ANSI/ASTM E 736.
   2. Bond Impact: ASTM E 760, no cracking, flaking, or delamination.
   3. Dry Density: ASTM E 605, minimum average density of 85 lb/cu ft.
   4. Hardness: ASTM D 2240; 45-50.
   5. Cohesive/Adhesive Strength: 190 psi (cohesive failure).
   6. Abrasion Resistance: 0 grams loss.
   7. Impact: 0.77 ft.lbs/inch of notch.

2.2 INTUMESCENT PAINTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Albi Manufacturing; a division of StanChem, Inc.

   Contego International Inc.
   2. FireFree Coatings, Inc.
   3. Flame Control Coatings, LLC.
   4. Flame Seal Products, Inc.
   5. FlameOff Coatings, Inc.
   6. Insl-X Products; Benjamin Moore & Co.
   7. NoFire Technologies, Inc.
   8. PPG Paints.
   9. Quantum Chemical.
   10. Sherwin-Williams Company (The).
   11. ThermaCote, Inc.
   12. TPR2 Corporation.

B. MPI Standards: complete coating systems and Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

C. Material Compatibility: Provide materials for use within each paint system compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

1. For each material or coat, provide products and spreading rates as recommended in writing by intumescent paint manufacturer for use on substrate indicated.

D. Primer: Manufacturer recommended rust inhibitive, phenolic modified alkyd primer compatible with substrate and materials indicated.

E. Intumescent Paint and Coating: Water based, thin filmed intumescent coating; provide appropriate intumescent coating for substrate (structural steel, wood, plaster, gypsum board; nonferrous substrates, and other combustible surfaces.

F. Colors and Gloss: Selected by Architect.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with manufacturer's requirements for surface treatments, shop primed surfaces, maximum moisture content, and conditions affecting performance of the work.

B. Test substrates after repairing and cleaning substrates but prior to application of paint and coatings.
   1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
      a. Concrete: 12 percent.
      b. Fiber Cement Board: 12 percent.
      c. Masonry (Clay and CMUs): 12 percent.
      d. Wood: 15 percent.
      e. Gypsum Board: 12 percent.
      f. Plaster: 12 percent.
   2. Test cementitious and plaster cement/stucco for alkalinity (pH).

C. Commence work when moisture content of substrate complies with or is less that that specified when measured with an electronic moisture meter.
   1. Begin application no sooner than 28 days after substrate is constructed and is visually dry on both sides.
   2. Verify suitability of substrates, including surface conditions, and compatibility with existing finishes and primers.

D. Proceed with application after correcting unsatisfactory conditions and surfaces are dry.

3.2 PREPARATION

A. Comply with manufacturer's written instructions applicable to substrates and coating systems indicated.

B. Remove hardware and hardware accessories, plates, machined surfaces, light fixtures, and similar items already installed that are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface applied protection prior to surface preparation and coating.

1. After completing coating operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface applied protection if any.

C. Clean substrates of substances that impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants. Do not coat surfaces if surface moisture content or alkalinity exceeds that permitted in manufacturer's written instructions.

1. Remove incompatible primers, and reprime substrate with compatible primers necessary to produce coating systems indicated.
2. Perform cleaning and coating application so dust and other contaminants from cleaning process do not fall on wet, newly coated surfaces.

3.3 APPLICATION

A. Apply intumescent paints according to manufacturer's written instructions and to comply with requirements for listing and labeling for surface burning characteristics specified.

1. Use equipment and techniques best suited for substrate and type of material being applied.
2. Coat surfaces behind movable items the same as similar exposed surfaces.
3. Apply each coat separately according to manufacturer's written instructions.
4. Finish doors on faces with intumescent finish. Paint tops, bottoms, and side edges with compatible fire inert finish.

B. Apply coatings to prepared surfaces as soon as practical after preparation and before subsequent surface soiling or deterioration.

C. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Produce sharp lines and color breaks.

1. Pigmented Finishes: If undercoats or other conditions show through pigmented topcoat/overcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
2. Clear Finishes: Produce a smooth surface film of even sheen using multiple coats.

3.4 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from site.

B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from coating application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

END OF SECTION