SECTION 099646 - INTUMESCENT PAINTING

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. RELATED DOCUMENTS
				1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
			2. SUMMARY
				1. Section Includes:

Intumescent paint for [**interior**] items and surfaces.

* + - * 1. Related Requirements:

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 078100 "Applied Fire Protection" for fire-resistance-rated intumescent mastic materials.

Section 099114 "Exterior Painting (MPI Standards)" for primers and finish coats that may be used with intumescent paint finishes.

Section 099123 "Interior Painting" for primers and finish coats that may be used with intumescent paint finishes.

Section 099300 "Staining and Transparent Finishing" for primers, finish coats, and wood stains that may be used with intumescent paint finishes.

Section 099633 "High-Temperature-Resistant Coatings" for special coatings designed for use on steel subject to extremely high temperatures.

* + - 1. PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" paragraph below if Work of this Section is extensive or complex enough to justify a conference.

* + - * 1. Preinstallation Conference: Conduct conference at Project site.
			1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Painting Schedule: Cross-referenced Painting Schedule listing all interior substrates to be painted and specified finish paint type designation; product name and manufacturer, recommended primers and product numbers, and finish paint color designation for each substrate to be painted.

Designate interior substrates by building name and number, floor, room name and number, and surface to be painted.

* + - * 1. Product Data: For each type of product.

See the Evaluations for discussion of first subparagraph below.

Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

Indicate VOC content.

* + - * 1. Sustainable Design Submittals:

Retain "Samples for Initial Selection" paragraph below if colors and other characteristics are not preselected and specified or scheduled.

* + - * 1. Samples for Initial Selection: For each intumescent paint finish indicated.

Retain "Samples for Verification" paragraph below if colors and other characteristics are preselected and specified or scheduled, with or without "Samples for Initial Selection" paragraph above.

* + - * 1. Samples for Verification: For each type of coating system and each color and gloss of intumescent paint finish indicated.

Submit Samples on [**rigid backing**] [**actual substrate**], not less than 8 inches square.

Apply coats on Samples in steps to show each coat required for system.

Label each coat of each Sample.

Label each Sample for location and application area.

* + - * 1. Contractor’s Qualifications: Submit documentation demonstrating compliance with requirements in Quality Assurance Article.
				2. Certification of Volatile Organic Compounds: Submit certified list demonstrating compliance requirements in Quality Assurance Article.
				3. Material Test Reports: For each intumescent paint.
			1. MAINTENANCE MATERIAL SUBMITTALS
				1. Furnish extra materials that are from same production run (batch mix) as materials applied and that are packaged with protective covering for storage and identified with labels describing contents.

Quantity: Furnish an additional 5 percent of each color applied, but not less than 1 gal. of each material and color applied.

* + - 1. QUALITY ASSURANCE
				1. Volatile Organic Compounds (VOCs) Regulatory Requirements: Chapter III of Title 6 of the official compilation of Codes, Rules and Regulations of the State of New York (Title 6 NYCRR), Part 205 Architectural Surface Coatings.

Certificate of Compliance: List of each paint product to be delivered and installed. List shall include written certification stating that each paint product listed complies with the VOC regulatory requirements in effect at the time of job site delivery and installation.

* + - * 1. Contractor shall have a minimum of five (5) years proven satisfactory experience and shall show proof before commencement of work that he will maintain a qualified crew of painters throughout the duration of the work. When requested by the Director’s Representative, Contractor shall provide a list of the last three comparable repainting jobs including, name, location, specifying authority / project manager, start / completion dates and value of the work.
				2. All materials, preparation and workmanship shall conform to the standards contained in the latest edition of the Master Painters Institute (MPI) Architectural Painting Manual (herein referred to as the MPI Manual).
				3. Mockups: Apply mockups of each paint system indicated to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

Director’s Representative will select one surface to represent surfaces and conditions for application of each coating system.

Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft..

Other Items: Director’s Representative will designate items or areas required.

Final approval of color selections will be based on mockups.

If preliminary color selections are not approved, apply additional mockups of additional colors selected by Director’s Representative at no added cost to the State.

Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Director’s Representative specifically approves such deviations in writing.

Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

* + - * 1. Compatibility of Paint Materials: Primers and intermediate paints shall be products manufactured or recommended by the finish paint manufacturer.
			1. REGULATORY REQUIREMENTS
				1. Conform to work place safety regulations for storage, mixing, application and disposal of all paint related materials to requirements of those authorities having jurisdiction.
				2. To reduce the amount of contaminants entering waterways, sanitary / storm drain systems or into the ground the following procedures shall be strictly adhered to:

Retain cleaning water for water based materials to allow sediments to be filtered out. In no case shall equipment be cleaned using free draining water.

Retain cleaners, thinners, solvents and excess paint and place in designated containers and ensure proper disposal.

Return solvent and oil-soaked rags used during painting operations for contaminant recovery, proper disposal, or appropriate cleaning and laundering.

Dispose of contaminants in an approved legal manner in accordance with hazardous waste regulations.

Empty paint cans are to be dry prior to disposal or recycling (where available).

Close and seal tightly partly used cans of materials including sealant and adhesive containers and store protected in well ventilated fire safe area at moderate temperature.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Deliver painting materials in sealed, original labeled containers bearing manufacturer's name, brand name, type of paint or coating and color designation, standard compliance, materials content as well as mixing and/or reducing and application requirements.
				2. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

Maintain containers in clean condition, free of foreign materials and residue.

Remove rags and waste from storage areas daily.

* + - * 1. Where toxic and/or volatile / explosive / flammable materials are being used, provide adequate fireproof storage lockers and take necessary precautions and post adequate warnings (e.g. no smoking) as required.
				2. Take necessary precautionary and safety measures to prevent fire hazards and spontaneous combustion and to protect the environment from hazard spills. Materials that constitute a fire hazard (paints, solvents, drop clothes, etc.) to be stored in suitable closed and rated containers or removed from the site on a daily basis.
			1. FIELD CONDITIONS

Revise this article if manufacturer's requirements are more restrictive.

* + - * 1. Apply waterborne intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 50 and 90 deg F.
				2. Apply solvent-thinned intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 45 and 95 deg F.
				3. Do not apply intumescent paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
				4. Allow wet surfaces to dry thoroughly and to attain temperature and conditions specified before starting or continuing coating operation.
				5. Perform no Painting work unless a minimum lighting level of 323 Lux (30-foot candles) is provided on surfaces to be repainted.
				6. Apply paint only to dry, clean, and adequately prepared surfaces in areas where dust is no longer generated by construction activities such that airborne particles will not affect the quality of finished surfaces.
1. PRODUCTS

Manufacturers and products listed in SpecAgent and MasterWorks Paragraph Builder are neither recommended nor endorsed by the AIA or Deltek. Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications.

* + - 1. MANUFACTURERS
				1. [Manufacturers:](http://www.specagent.com/Lookup?ulid=11177) Subject to compliance with requirements, provide products by the following:

[Benjamin Moore & Co](http://www.specagent.com/Lookup?uid=123457118128).

PPG Architectural.

Quantum Chemical.

Sherwin-Williams.

Or equal.

Retain "Manufacturers" paragraph below and list of manufacturers to require products from manufacturers listed or a comparable product from other manufacturers.

* + - * 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in the Exterior Intumescent Painting Schedule and Interior Intumescent Painting Schedule for the paint category indicated.
			1. INTUMESCENT PAINT
				1. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
				2. Surface-Burning Characteristics of Fire-Retardant Systems: As tested according to ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

Flame-Spread Index: [**25**] [**75**] or less.

Smoke-Developed Index: 450 or less.

* + - * 1. Material Compatibility:

Systems could fail if paints used for individual coats are incompatible.

Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

For each material or coat, products and spreading rates shall be as recommended in writing by intumescent paint manufacturer for use on substrate indicated. Comply with requirements for fire-retardant coating classification and surface-burning characteristics indicated.

* + - * 1. Colors and Gloss: As selected by Director’s Representative from manufacturer's full range.
1. EXECUTION
	* + 1. EXAMINATION
				1. Examine substrates and conditions, with Applicator present, for compliance with manufacturer's requirements for surface treatments, shop-primed surfaces, maximum moisture content, and other conditions affecting performance of the Work.

Percentage in first paragraph below and time limit in second paragraph are based on the "MPI Architectural Painting Specification Manual"; revise both paragraphs to suit Project.

* + - * 1. Begin coating only when moisture content of wood substrate is 15 percent or less when measured with an electronic moisture meter.
				2. Begin coating no sooner than 28 days after substrate is constructed and is visually dry on both sides.
				3. Verify suitability of substrates, including surface conditions, and compatibility with existing finishes and primers.
				4. Proceed with coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
			1. PREPARATION

For renovation projects, consult the "MPI Maintenance Repainting Manual" and revise option in first paragraph below and coating systems specified in the Exterior Intumescent Painting Schedule and Interior Intumescent Painting Schedule.

* + - * 1. Comply with manufacturer's written instructions and recommendations in the "MPI Manual" applicable to substrates and coating systems indicated.

Revise first paragraph below to suit Project.

* + - * 1. 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 before surface preparation and coating.

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

* + - * 1. Clean substrates of substances that could 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.

Remove incompatible primers, and reprime substrate with compatible primers as required to produce coating systems indicated.

Perform cleaning and coating application so dust and other contaminants from cleaning process do not fall on wet, newly coated surfaces.

* + - 1. INSTALLATION

Revise this article to suit Project. Insert special restrictions on application methods if required.

* + - * 1. Apply intumescent paints according to manufacturer's written instructions and to comply with requirements for listing and labeling for surface-burning characteristics specified.

If Project requires a restricted application method (e.g., using only spray or rollers), revise first subparagraph below to suit Project.

Use equipment and techniques best suited for substrate and type of material being applied.

Coat surfaces behind movable items the same as similar exposed surfaces.

Apply each coat separately according to manufacturer's written instructions.

Application in subparagraph below limits intumescent paint to door faces, because activation of coating on edges may interfere with door opening.

Finish doors on faces with intumescent finish. Paint tops, bottoms, and side edges with fire-inert finish.

* + - * 1. Apply coatings to prepared surfaces as soon as practical after preparation and before subsequent surface soiling or deterioration.
				2. 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.

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.

Clear Finishes: Produce a smooth surface film of even sheen using multiple coats.

* + - 1. CLEANING AND PROTECTION
				1. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
				2. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
				3. 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 Director’s Representative, and leave in an undamaged condition.
				4. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.
			2. INTERIOR INTUMESCENT PAINTING SCHEDULE
				1. Wood Substrates, Glued-Laminated Construction:

Type FRLP: Pigmented, Fire-Retardant, Water-Based System MPI INT 6.1U:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat: Fire-retardant coating, latex, interior, flat MPI #64. Provide one of the following:

Benjamin Moore & Co.: Insl-X Fire Retardant Coating Latex Intumescent Flat Finish.

PPG Architectural: PPG Paints Interior Fire Retardant Flat Latex.

Sherwin-Williams: Flame Control No. 20-20.

Type FRLC: Clear, Fire-Retardant, Water-Based System MPI INT 6.1V:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat: Fire-retardant coating, interior, clear MPI #62. Provide one of the following:

Quantum Chemical: SafeCoat Clear II.

Sherwin-Williams: Flame Control No. 129 & 130.

* + - * 1. Wood Substrates, Exposed Framing:

Type FRLP: Pigmented, Fire-Retardant, Water-Based System MPI INT 6.2F:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat: Fire-retardant coating, latex, interior, flat MPI #64. Provide one of the following:

Benjamin Moore & Co.: Insl-X Fire Retardant Coating Latex Intumescent Flat Finish.

PPG Architectural: PPG Paints Interior Fire Retardant Flat Latex.

Sherwin-Williams: Flame Control No. 20-20.

Type FRLC: Clear, Fire-Retardant, Water-Based System MPI INT 6.2G:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat: Fire-retardant coating, interior, clear MPI #62. Provide one of the following:

Quantum Chemical: SafeCoat Clear II.

Sherwin-Williams: Flame Control No. 129 & 130.

* + - * 1. Wood Substrates, [**Wood Trim**] [**Architectural Woodwork**] [**and**] [**Wood Board Paneling**].

Type FRLP: Pigmented, Fire-Retardant, Water-Based System MPI INT 6.3R:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat: Fire-retardant coating, latex, interior, flat MPI #64. Provide one of the following:

Benjamin Moore & Co.: Insl-X Fire Retardant Coating Latex Intumescent Flat Finish.

PPG Architectural: PPG Paints Interior Fire Retardant Flat Latex.

Sherwin-Williams: Flame Control No. 20-20.

Type FRLC: Clear, Fire-Retardant, Water-Based System MPI INT 6.3S:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat: Fire-retardant coating, interior, clear MPI #62. Provide one of the following:

Quantum Chemical: SafeCoat Clear II.

Sherwin-Williams: Flame Control No. 129 & 130.

* + - * 1. Wood Substrates, Wood-Based Panel Products.

Type FRLP: Pigmented, Fire-Retardant, Water-Based System MPI INT 6.4P:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat Fire-retardant coating, latex, interior, flat MPI #64. Provide one of the following:

Benjamin Moore & Co.: Insl-X Fire Retardant Coating Latex Intumescent Flat Finish.

PPG Architectural: PPG Paints Interior Fire Retardant Flat Latex.

Sherwin-Williams: Flame Control No. 20-20. .

Type FRLC: Clear, Fire-Retardant, Water-Based System MPI INT 6.4Q:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat: Fire-retardant coating, interior, clear MPI #62. Provide one of the following:

Quantum Chemical: SafeCoat Clear II.

Sherwin-Williams: Flame Control No. 129 & 130

* + - * 1. Wood Substrates, Wood Shingles and Shakes.

Type FRLP: Pigmented, Fire-Retardant, Water-Based System MPI INT 6.6G:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat: Fire-retardant coating, latex, interior, flat MPI #64. Provide one of the following:

Benjamin Moore & Co.: Insl-X Fire Retardant Coating Latex Intumescent Flat Finish.

PPG Architectural: PPG Paints Interior Fire Retardant Flat Latex.

Sherwin-Williams: Flame Control No. 20-20.

Type FRLC: Clear, Fire-Retardant, Water-Based System MPI INT 6.6H:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat: Fire-retardant coating, interior, clear MPI #62. Provide one of the following:

Quantum Chemical: SafeCoat Clear II.

Sherwin-Williams: Flame Control No. 129 & 130.

* + - * 1. Plaster and Gypsum Board Substrates:

Type FRLP: Water-Based, Fire-Retardant Coating System MPI INT 9.2J:

"MPI Manual" states that application procedures and products used in this system vary; therefore, it relies on manufacturer's written recommendations for primers and number of coats for a Premium Grade system and does not include a Budget Grade system.

Prime Coat: As recommended in writing by topcoat manufacturer.

Intermediate Coat: As recommended in writing by topcoat manufacturer.

Topcoat: Fire-retardant coating, latex, interior, flat MPI #64 Provide one of the following:

Benjamin Moore & Co.: Insl-X Fire Retardant Coating Latex Intumescent Flat Finish.

PPG Architectural: PPG Paints Interior Fire Retardant Flat Latex.

Sherwin-Williams: Flame Control No. 20-20.

END OF SECTION 099646