PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Fireproofing of interior structural steel not exposed to damage or moisture.
   B. Fireproofing of structural steel exposed to damage or moisture.
   C. Preparation of fireproofing for application of finish specified elsewhere.

1.02 RELATED REQUIREMENTS
   A. Section 05.12.00 - Structural Steel Framing.
   B. Section 05.21.00 - Steel Joist Framing.
   C. Section 05.31.00 - Steel Decking.
   D. Section 07.84.00 - Firestopping.

1.03 REFERENCE STANDARDS

1.04 ADMINISTRATIVE REQUIREMENTS
   A. Coordinate with placement of ceiling hanger tabs, mechanical component hangers, and electrical components.
   B. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS
   A. See Section 01.30.00 - Administrative Requirements, for submittals procedures.
   B. Product Data: Provide data indicating product characteristics.
   C. Test Reports: Reports from reputable independent testing agencies for proposed products, indicating compliance with specified criteria, conducted under conditions similar to those on project, for:
      1. Bond Strength.
      2. Bond Impact.
      3. Compressive Strength.
      4. Fire tests using substrate materials similar those on project.
D. Manufacturer's Installation Instructions: Indicate special procedures.
E. Manufacturer's Certificate: Certify that sprayed-on fireproofing products meet or exceed requirements of contract documents.
F. Manufacturer's Field Reports: Indicate environmental conditions under which fireproofing materials were installed.

1.06 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
B. Installer Qualifications: Company specializing in performing work of the type specified in this section, and:
   1. Having minimum three years of documented experience.
   2. Approved by manufacturer.

1.07 FIELD CONDITIONS
A. Do not apply spray fireproofing when temperature of substrate material and surrounding air is below 40 degrees F or when temperature is predicted to be below said temperature for 24 hours after application.
B. Provide ventilation in areas to receive fireproofing during application and 24 hours afterward, to dry applied material.
C. Provide temporary enclosure to prevent spray from contaminating air.
D. Do not allow roof traffic during installation of roof fireproofing and drying period.

1.08 WARRANTY
A. Correct defective Work within a five year period after Date of Substantial Completion.
   1. Include coverage for fireproofing to remain free from cracking, checking, dusting, flaking, spalling, separation, and blistering.
   2. Reinstall or repair failures that occur within warranty period.

PART 2 PRODUCTS

2.01 FIREPROOFING ASSEMBLIES
A. Provide assemblies as indicated on the drawings.
B. Provide fire resistance ratings for the following building elements as required by the building code:
   1. Primary structural frame, including columns, girders, and trusses: 2-hour.
   2. Floor construction, including supporting beams and joists: 1-hour.
   3. Roof construction, including supporting beams and joists: 0-hour.

2.02 MATERIALS
A. Sprayed Fire-Resistive Material for Interior Applications, Concealed: Manufacturer's standard factory mixed material, which when combined with water is capable of providing the indicated fire resistance, and conforming to the following requirements:
   2. Bond Strength: 150 pounds per square foot, minimum, when tested in accordance with ASTM E736 when set and dry.
   3. Dry Density: As required by fire resistance design.
   4. Compressive Strength: 8.33 pounds per square inch, minimum.
   5. Effect of Impact on Bonding: No cracking, spalling or delamination, when tested in accordance with ASTM E760.

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ISSUED: 30-DEC-15
6. Corrosivity: No evidence of corrosion, when tested in accordance with ASTM E937.
7. Air Erosion Resistance: Weight loss of 0.025 g/sq ft, maximum, when tested in accordance with ASTM E859 after 24 hours.
8. Surface Burning Characteristics: Maximum flame spread index of 0 (zero) and maximum smoke developed index of 0 (zero), when tested in accordance with ASTM E84.
9. Effect of Deflection: No cracking, spalling, or delamination, when tested in accordance with ASTM E759.
10. Products:

B. Sprayed Fire-Resistive Material Exposed to Damage or Moisture: Manufacturer's standard factory mixed material, which when combined with water is capable of providing the indicated fire resistance, and conforming to the following requirements:
2. Bond Strength: 1000 pounds per square foot, minimum, when tested in accordance with ASTM E736 when set and dry.
3. Dry Density: As required by fire resistance design.
4. Effect of Impact on Bonding: No cracking, spalling or delamination, when tested in accordance with ASTM E760.
5. Corrosivity: No evidence of corrosion, when tested in accordance with ASTM E937.
6. Air Erosion Resistance: Weight loss of 0.025 g/sq ft, maximum, when tested in accordance with ASTM E859 after 24 hours.
7. Surface Burning Characteristics: Maximum flame spread index of 0 (zero) and maximum smoke developed index of 0 (zero), when tested in accordance with ASTM E84.
8. Fungal Resistance: No growth after 28 days when tested according to ASTM G21.
9. Products:

2.03 ACCESSORIES
A. Primer Adhesive: Of type recommended by fireproofing manufacturer.
B. Overcoat: As recommended by manufacturer of fireproofing material.
C. Metal Lath: Expanded metal lath; minimum 1.7 pounds per square foot, galvanized finish.
D. Water: Clean, potable.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that surfaces are ready to receive fireproofing.
B. Verify that clips, hangers, supports, sleeves, and other items required to penetrate fireproofing are in place.
C. Verify that ducts, piping, equipment, or other items that would interfere with application of fireproofing have not been installed.
D. Verify that voids and cracks in substrate have been filled. Verify that projections have been removed where fireproofing will be exposed to view as a finish material.

3.02 PREPARATION
A. Perform tests as recommended by fireproofing manufacturer in situations where adhesion of fireproofing to substrate is in question.
B. Remove incompatible materials that could affect bond by scraping, brushing, scrubbing, or sandblasting.
C. Prepare substrates to receive fireproofing in strict accordance with instructions of fireproofing manufacturer.

D. Apply fireproofing manufacturer's recommended bonding agent on primed steel.

E. Protect surfaces not scheduled for fireproofing and equipment from damage by overspray, fall-out, and dusting.

F. Close off and seal duct work in areas where fireproofing is being applied.

3.03 APPLICATION

A. Install metal lath over structural members as indicated or as required by UL Assembly Design Numbers.

B. Apply primer adhesive in accordance with manufacturer's instructions.

C. Apply fireproofing in thickness and density necessary to achieve required ratings, with uniform density and texture.

D. In exposed locations, trowel surface smooth and form square edges, using tools and procedures recommended by fireproofing manufacturer.

E. Apply overcoat to a thickness of ____ inches.

3.04 FIELD QUALITY CONTROL

A. See Section 01.40.00 - Quality Requirements, for additional requirements.

B. Inspect the installed fireproofing after application and curing for integrity, prior to its concealment.
   Ensure that actual thicknesses, densities, and bond strengths meet requirements for specified ratings and requirements of the Authority Having Jurisdiction.

C. Remove and replace installed fireproofing that does not comply with specified requirements, as directed by Architect.

D. Re-inspect the installed fireproofing for integrity of fire protection, after installation of subsequent Work.

3.05 CLEANING

A. Remove excess material, overspray, droppings, and debris.

B. Remove fireproofing from materials and surfaces not required to be fireproofed.

C. At exposed fireproofing, clean surfaces that have become soiled or stained, using manufacturer's recommended procedures.

END OF SECTION