

SECTION 07 84 63

SHEET METAL FIRESTOPPING ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sheet metal firestopping assemblies for:
 - 1. Recessed plumbing valve assemblies.
 - 2. Recessed bathroom fans and fan/light units.
 - 3. Recessed clothes dryer exhausts.
 - 4. Recessed light fixtures.
 - 3. Recessed audio speakers.
 - 4. Recessed low voltage panels and controls.

1.02 RELATED REQUIREMENTS

- A. Section 01 22 00 - Unit Prices: Descriptions of unit price items, administrative requirements.
- B. Section 01 30 00 - Administrative Requirements: Submittal procedures, reports, and coordination.
- C. Section 01 35 15 - LEED Certification Procedures.
- D. Section 01 40 00 - Quality Requirements: Procedures for testing, inspection, mock-ups, reports, certificates; use of reference standards.
- E. Section 01 60 00 - Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.
- F. Section 01 70 00 - Execution Requirements: Examination, preparation, and general installation procedures; preinstallation meetings; cutting and patching; cleaning and protection; starting of systems; demonstration and instruction; closeout procedures except payment procedures; requirements for alterations work.
- G. See Section 01 74 19 - Construction Waste Management and Disposal.
- H. Section 06 10 00 – Rough Carpentry: Ceiling framing.
- I. Section 06 17 53 – Shop-Fabricated Wood Trusses: Ceiling framing.
- J. Section 07 84 13 – Penetration Firestopping.
- K. Section 09 21 16 - Gypsum Board Assemblies: Gypsum board ceiling and wall surfaces.
- L. Section 09 22 36.23 – Metal Lath: Lath and support framing for plaster ceilings.
- M. Section 09 23 00 - Gypsum Plastering: Gypsum plaster ceiling and wall surfaces.
- N. Section 09 51 00 – Acoustical Ceilings: Fire rated acoustical ceilings and related suspension systems.
- O. Section 22 05 23 – General-Duty Valves for Plumbing Piping.
- P. Section 23 31 13 – Metal Ducts: Ductwork for connection to exhaust fans.
- Q. Section 23 34 00 – HVAC Fans: Exhaust fans.
- R. Section 26 51 00 – Interior Lighting: Recessed light fixtures.
- S. Section 27 51 16 – Public Address and Mass Notification Systems: Recessed speakers.

1.03 PRICE AND PAYMENT PROCEDURES

- A. Unit Prices: See Section 01 22 00 - Unit Prices, for additional unit price requirements.
 - 1. Provide the work under the unit price method.

1.04 REFERENCE STANDARDS

- A. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. ASTM E 119 - Standard Methods of Fire Tests of Building Construction and Materials.
- C. ANSI A2.1 - Fire Test of Building Construction Materials.
- D. NFPA 251 - Standard Methods of Tests of Fire Endurance of Building Construction and Materials.
- E. UL 263 - Fire Tests of Building Construction and Materials.

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- F. Intertek Directory of Listed Products.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the installation of sheet metal firestopping assemblies with size, location and installation of service utilities for components recessed into firestopping assemblies.
- B. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.
- C. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
- C. Shop Drawings: For each fire barrier system, show each type of construction condition penetrated, relationship to adjoining construction, and type of penetrating item.
- D. Manufacturer's Certificate: Certify that products of this section meet or exceed specified requirements.
- E. Manufacturer's Instructions: Indicate installation procedures, including limitations if any.
- F. LEED Submittals: Indicate _____.

1.07 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than 5 years of documented experience.
- E. Erector Qualifications: Company specializing in performing the work of this section with minimum 3 years of experience and with the necessary experience, staff, and training to install manufacturer's products

1.08 MOCK-UP

- A. Provide one mock-up, illustrating an installed sheet metal firestopping assembly and the component recessed into it.
- B. Locate where directed.
- C. Mock-up may remain as part of the Work.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sheet metal firestopping assemblies to project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer, date of manufacture, lot number, qualified testing and inspecting agency's classification marking applicable to project.
- B. Store products under cover and elevated above grade in manufacturer's unopened packaging until ready for installation.

1.10 FIELD CONDITIONS

- A. Ambient Conditions: Do not install sheet metal firestopping assemblies until the building is enclosed and weather protected.

PART 2 PRODUCTS

2.01 See Section 01 60 00 for additional requirements.

2.02 MANUFACTURED UNITS

- A. Basis of Design Manufacturer: Fire Rated Product Specialties Corp (FRPS).
 - 1. Located at: 901 N. 3rd St. Suite 130 ; Minneapolis, MN 55401.
 - 2. Tel: 612-294-1450.
 - 3. Fax: 612-436-0608.
 - 4. E-Mail: info@FRPSonline.com.

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5. Website: www.FRPSonline.com.
 6. Substitutions: Not permitted.
- B. Description:
1. Composition: One-piece, formed and welded galvanized sheet steel box, open front face, with integral fastening flanges for recessing and securing into framing and/or suspension system to receive recessed light fixtures, bath exhaust fans, shower valves, clothes dryer exhausts, audio speakers, and/or low voltage controls and panels.
 - a. Compatible with the structure and in compliance with structural systems and clearances required by the manufacturer to maintain a one hour fire rated enclosure complying with the performance requirements specified.
 - b. Permit recessed light fixture enclosures to be installed in either interior or exterior locations.
 2. Size:
 - a. Recessed Light Fixture Enclosure: 12.2 x 20.2 x 9.5 inches (wide x long x deep) engineered to fit within either 24 or 16 inches on center framing elements.
 - b. Bathroom Exhaust Fans & Fan/Light Units Enclosure: 12.2 x 20.2 x 9.5 inches (wide x long x deep) engineered to fit within either 24 or 16 inches on center framing elements.
 - c. Sidewall Enclosure: 14.0 x 14.0 x 4.0 inches (wide x long x deep) with extended fastening flanges to permit fitting and fastening within either 24 or 16 inches on center framing elements.
- C. Performance:
1. Fire Testing: Tested and approved by Intertec/Warnock Hersey Testing.
 - a. Recessed Light Fixture Enclosure: Intertek Testing Laboratories Fire Resistance Directory Design Number Design No. FRPS/FME 60-02
 - b. Bathroom Exhaust Fan & Fan/Light Unit Enclosure: Intertek Testing Laboratories Fire Resistance Directory Design Number Design No. FRPS/FME 60-03.
 - c. Sidewall Enclosure: Intertek Testing Laboratories Fire Resistance Directory Design Number Design No. FRPS/FME 60-01.
 - d. Testing agency "classified" products are not acceptable.
 2. Labeling: Label each unit with symbol authorized by testing agency.
- G. Assembly:
1. Factory assemble.
 2. Form sections true to shape, accurate in size, square, and free from distortion or defects.
 3. Cleanly punch electrical knockouts, duct openings, and fastener holes.
 4. Overlap and spot weld corners.
 5. Bathroom Exhaust Fan & Fan/Light Unit Enclosure and Sidewall Enclosure: Cover the interior of the enclosure with one layer of intumescent mat, nominal 3/16 inch thick. Attach intumescent mat material using 4 pre-punched tabs on each face of the inside of the recessed box enclosure. Cover all interior surfaces with intumescent material.
- H. Penetrations: To maintain the one hour fire rated enclosure, use only the designed penetrations of the sheet metal firestopping assembly; do not add any additional ones. Penetrations of the sheet metal firestopping assembly is allowed for power wiring as described on the written manufacturer's installation sheet.
- a. Provide (4) standard 7/8 inch diameter electrical knock-outs in each unit.
 - b. Penetrations of the sheet metal fire stopping units shall be made only at factory designated knock-out locations and in conformance with the manufacturer's written installation instructions.
 - c. A maximum of two standard 3C-12AWC "Romex" wires shall penetrate the enclosure as per the FRPS written installation instructions.
 - d. All power wiring must meet the requirements of the National Electric Code and the authority having jurisdiction.
 - e. Bathroom Exhaust Fan & Fan/Light Unit Enclosures: Additionally, provide (1) 3-1/2

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or (1) 4-1/2 inch diameter nominal opening for exiting of exhaust fan duct through enclosure wall to space beyond. Provide a 3 or 4 inch diameter (as ordered by customer) PVC pipe sleeve extension from exhaust fan (by others) through enclosure wall and firestop device at enclosure wall penetration. Fit firestop device concentrically over sleeve extension and attach to inside of enclosure in accordance with manufacturer's instructions.

2.03 MATERIALS

- A. Galvanized Steel: ASTM A 653/A 653M, with G90/Z275 zinc coating.
 - 1. Thickness: 24 gage.

2.04 ACCESSORIES

- A. Firestop Seal: Firestop fill, void, or cavity material listed by testing agency.
- B. Firestop Device: FIRE BARRIER ULTRA PPD Plastic Pipe Device as manufactured by 3M with 3 layers of intumescent mat material, 1/8 inch thickness.
- C. Intumescent Mat Liner: Intumescent Mat Model I-10 as manufactured by 3M, 3/16 inch thick.

PART 3 EXECUTION

3.01 See Section 01 70 00 for additional requirements.

3.02 EXAMINATION

- A. Verification of Conditions: Verify that substrates and conditions are in compliance with manufacturer's recommendations and with requirements for opening configurations.
- B. Do not begin installation until substrates have been properly prepared.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.03 PREPARATION

- A. Remove penetrating items and foreign materials that could interfere with the proper installation of the sheet metal firestopping assemblies from surfaces of opening substrates.
- B. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of allowing installation in compliance with the manufacturers written installation instructions.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.04 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Mount sheet metal firestopping assemblies in full compliance with manufacturer's published installation instructions and include 4 drywall screws, a minimum of 1-1/4 inch (32 mm) in length, fully bored into the structural elements at predrilled locations in the flanges of the membrane fire barrier. Required drywall mounting channels shall be mounted after the sheet metal firestopping assemblies are installed as per Intertek Testing Laboratories Fire Resistance Directory Design Number specified.
- C. Locate sheet metal firestopping assemblies as follows:
 - 1. Recessed Light Fixture Enclosures:
 - a. Maximum of 2 fixtures within any 36 sf area.
 - b. Minimum oc fixture spacing of 24 inches within same truss cavity.
 - c. Minimum oc fixture spacing of 34 inches for adjacent truss cavities.
 - d. Fixture Style: Standard canister-style recessed light fixture assembly.
 - 2. Bathroom Exhaust Fan & Fan/Light Unit Enclosures.
 - a. Maximum of 1 fan or fan/light cover within any 104 sf area.
 - 3. Sidewall Enclosures.
 - a. Maximum of 1 enclosure within any 100 sf area.
- E. Apply firestop seal to fill voids or cavities around wires where they exit the sheet metal firestop assembly enclosures as specified in the manufacturer's written instructions.

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3.05 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for additional requirements.
- B. Installer shall inspect each sheet metal firestop assembly installation for conformance with manufacturer's written installation instructions. Proceed with enclosing sheet metal firestop assemblies with other construction only after complete inspection for compliance with manufacturer's written installation procedures has been confirmed.

3.06 CLEANING

- A. Clean off excess fill materials adjacent to openings as work progresses by methods and with cleaning materials that are approved in writing by sheet metal firestop assembly manufacturer and that do not damage materials in which openings occur.
- B. See Section 01 74 19 - Construction Waste Management and Disposal for additional requirements.

3.07 PROTECTION

- A. Protect installed products until completion of project.
- B. Provide final protection and maintain conditions during and after installation that ensure that sheet metal firestop assemblies are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated sheet metal firestop assemblies immediately and install new materials to produce systems complying with specified requirements.

3.08 SCHEDULES

- A. ? : ?.
- B. ? : ?.

END OF SECTION