SECTION 07 84 00

FIRESTOPPING - FLAT FORM DECK AND THROUGH DECK

Display hidden notes to specifier. (Don't know how? [Click Here](https://www.arcat.com/sd/display_hidden_notes.shtml))

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\*\* NOTE TO SPECIFIER \*\* RWC Canada; Smart plumbing and heating solutions.  
This section is based on the products of RWC Canada, which is located at:  
74 Alex Ave.  
Vaughan, ON, Canada L4L 5X1  
Toll Free Tel: 888-820-0120  
Tel: 905-265-2790  
Email: [request info (info-ask@rwc.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=RWC+Canada&coid=53361&rep=&fax=&message=RE:%20Spec%20Question%20(07840rwc):%20%20&mf=)  
Web: <https://www.rwc.com>   
 [ [Click Here](https://www.arcat.com/arcatcos/cos53/arc53361.html) ] for additional information.  
RWC and its family of brands develop safe, sustainable, and efficient solutions to help shape a better world. We engineer and innovate products to integrate seamlessly within the modern built environment. We make our customers' lives easier with a range of solutions to help them deliver, control, optimize and solve in simple, more efficient, and safer ways every day.  
From improving plumbing and heating performance to syncing smart homes and transforming the delivery of liquid, air, and data, RWC shapes a better world for millions of people around the globe.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Telescoping firestop sleeves.
       1. Telescoping firestop sleeves with adjusting caps
    2. Telescoping hollow sleeves.
       1. Telescoping hollow sleeves with adjusting caps
    3. Large diameter sleeves.
    4. Large diameter hollow sleeves.
    5. Tub boxes.
    6. Aerator adapters
    7. Cable and line set sleeves
    8. Cable and line custom build set sleeves
    9. Sleeve extensions.
    10. Plastic drain sleeves
    11. Cast iron drain sleeves
    12. Closet flange sleeves
    13. Corrugated metal deck plates for telescoping firestop sleeves.
    14. Pipe collars
    15. Sealants.
    16. Wrap strips.
    17. Putty pads.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete.
    2. Section 04 21 13 - Brick Masonry.
    3. Section 07 90 00 - Joint Protection.
    4. Section 09 25 23 - Lime Based Plastering.
    5. Section 22 40 00 - Plumbing Fixtures.
    6. Section 23 80 00 - Decentralized HVAC Equipment.
    7. Section 26 05 00 - Common Work Results for Electrical.
    8. Section 25 15 16 - Integrated Automation Software for Control and Monitoring Networks.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM International (ASTM):
       1. ANSI/UL-1479
       2. ASTM C793
       3. ASTM C794
       4. ASTM E84,
       5. ASTM E96
       6. ASTM E814
       7. UL 723
       8. UL 1479
       9. ULC/ CAN4-S115-M
       10. ASTM E1966
       11. UL 2079
       12. ASTM E90
       13. ASTM G21
       14. ASTM E84
       15. ASTM G23 and G53
       16. Insert Referenced Standard
    2. American National Standards Institute (ANSI):
       1. Insert Referenced Standard
    3. American Society of Mechanical Engineers (ASME):
       1. Insert Referenced Standard
    4. FM Global:
       1. Insert Referenced Standard
    5. National Fire Protection Association (NFPA):
       1. Insert Referenced Standard
    6. Underwriters Laboratories (UL):
       1. Insert Referenced Standard
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern, and color.
    2. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
     2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
     3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
       1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
       2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
       3. Retain mock-up during construction as a standard for comparison with completed work.
       4. Do not alter or remove mock-up until work is completed or removal is authorized.
  1. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
     2. Protect from damage due to weather, excessive temperature, and construction operations.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  4. WARRANTY
     1. Manufacturer's standard limited warranty unless indicated otherwise.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: RWC Canada, which is located at: 74 Alex Ave.; Vaughan, ON, Canada L4L 5X1; Toll Free Tel: 888-820-0120; Tel: 905-265-2790; Email: [request info (info-ask@rwc.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=RWC+Canada&coid=53361&rep=&fax=&message=RE:%20Spec%20Question%20(07840rwc):%20%20&mf=); Web: <https://www.rwc.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete article not required.

* 1. TELESCOPING FIRESTOP SLEEVES
     1. HoldRite HydroFlame Pro Series. Height: 7-1/2 to 11-3/4 inch (191 to 298 mm). Sleeving and firestop solutions for cast-in-place concrete floors. For metallic and non-metallic pipes, line-sets, cables, conduits, floor drains, tub drains, shower drains and toilet drains. For slabs 2-1/2 inch (64 mm) and thicker and for pipes, conduits, and cables 1/2 to 6 inches (13 to 152 mm). 2 and 3 hour UL Fire Ratings and T, L and W ratings available. 50 Pa ratings available. Sleeves are easily adapted for use on Corrugated Metal Decking with the use of HoldRite's CD Plates. Tested to ASTM E90 standard test method for laboratory Measurement of Airborne Sound Transmission Loss in Building Partitions and Elements. FBC System Compatible.
        1. Model HFP-P1. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 1/2 to 1 inch (13 to 25 mm).
        2. Model HFP-P2. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 1-1/4 to 2 inch (32 to 51 mm).
        3. Model HFP-P3. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 2 to 3 inch (51 to 76 mm).
        4. Model HFP-P4. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 3 to 4 inch (76 to102 mm).
        5. Model HFP-P5. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 4 to 5 inch (102 to 127 mm).
        6. Model HFP-P6. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 5 to 6 inch (127 x 152 mm).
        7. Model HFP-M1. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 1/2 to 1 inch (13 to 25 mm).
        8. Model HFP-M2. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 1-1/4 to 2 inch (32 to 51 mm).
        9. Model HFP-M3. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 2 to 3 inch (51 to 76 mm).
        10. Model HFP-M4. Penetrating Pipe Type: Metal.
            1. Nominal Penetrant Size: 3 to 4 inch (76 to102 mm).
        11. Model HFP-M5. Penetrating Pipe Type: Metal.
            1. Nominal Penetrant Size: 4 to 5 inch (102 to 127 mm).
        12. Model HFP-M6. Penetrating Pipe Type: Metal.
            1. Nominal Penetrant Size: 5 to 6 inch (127 x 152 mm).
        13. Product Test Criteria:
            1. UL Fire Tested and Listed to UL1479 (ASTM E814) and CAN/ULC S115.
            2. UL Ratings (consult individual product specs and UL Systems):

"L": Yes; "F": 3 Hrs. typical; "W": Yes (UL system may require caulk).

* + - 1. Intumescent Fire Wrap Physical Properties, Performance:
         1. Contains no solvents or carcinogenic fillers.
         2. Color: Gray or Black.
         3. Material Shelf Life: Indefinite:
         4. Heat Expansion Begins: 375 degrees F (191 degrees C).
         5. Greatest Expansion: 575 to 1100 degrees F (302 to 593 degrees C).
         6. Constrained Expansion: Greater than or equal to 18 times volume.
         7. Free Expansion: Greater than or equal to 37 times volume.
         8. Expansion After Accelerated Weathering; Tested to UL 1479:

Temperature Aging: Pass. 270 days at 158 degrees F (70 degrees C).

High Humidity Aging: Pass. 180 days at 97 to 100 percent humidity, 95 degrees F (35 degrees C).

Application Temperature Range: 15 to 130 degrees F (Minus 9 to 54 degrees C).

Temperature Resistance: Maximum 212 degrees F (100 degrees C).

* + - * 1. Surface Burning Indicates per ASTM E84/UL 723:

Flame Spread: 5.

Smoke Developed: 5.

* + - 1. Material:
         1. Main Sleeve Body and Safety Cap: Polypropylene.
         2. Mid-Body Seal: Thermoplastic Rubber (TPR); mold and fungus resistant per ASTM G21.
         3. Locator Whiskers: Polypropylene.
         4. Fire Ring: 24 ga. cold rolled steel.
         5. Firestop Material: UL Listed Intumescent Composite.

\*\* NOTE TO SPECIFIER \*\* Delete article not required.

* 1. TELESCOPING FIRESTOP SLEEVES WITH ADJUSTING CAPS
     1. HoldRite HydroFlame Pro Series. Height: 7-1/4 to 8 inches (184 to 203 mm). Sleeving and firestop solutions for cast-in-place concrete floors. For metallic and non-metallic pipes, line-sets, cables, conduits, floor drains, tub drains, shower drains and toilet drains. For slabs 2-1/2 inch (64 mm) and thicker and for pipes, conduits, and cables 1/2 to 6 inches (13 to 152 mm). 2 and 3 hour UL Fire Ratings and T, L and W ratings available. 50 Pa ratings available. Sleeves are easily adapted for use on Corrugated Metal Decking with the use of HoldRite's CD Plates. Tested to ASTM E90 standard test. FBC System Compatible.
        1. Model HFP-P1B. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 1/2 to 1 inch (13 to 25 mm).
        2. Model HFP-P2B. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 1-1/4 to 2 inch (32 to 51 mm).
        3. Model HFP-P3B. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 2 to 3 inch (51 to 76 mm).
        4. Model HFP-P4B. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 3 to 4 inch (76 to102 mm).
        5. Model HFP-P5B. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 4 to 5 inch (102 to 127 mm).
        6. Model HFP-P6B. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 5 to 6 inch (127 x 152 mm).
        7. Model HFP-M1B. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 1/2 to 1 inch (13 to 25 mm).
        8. Model HFP-M2B. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 1-1/4 to 2 inch (32 to 51 mm).
        9. Model HFP-M3B. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 2 to 3 inch (51 to 76 mm).
        10. Model HFP-M4B. Penetrating Pipe Type: Metal.
            1. Nominal Penetrant Size: 3 to 4 inch (76 to102 mm).
        11. Model HFP-M5B. Penetrating Pipe Type: Metal.
            1. Nominal Penetrant Size: 4 to 5 inch (102 to 127 mm).
        12. Model HFP-M6B. Penetrating Pipe Type: Metal.
            1. Nominal Penetrant Size: 5 to 6 inch (127 x 152 mm).
        13. Product Test Criteria:
            1. UL Fire Tested and Listed to UL1479 (ASTM E814) and CAN/ULC S115.
            2. UL Ratings (consult individual product specs and UL Systems):

"L": Yes; "F": 3 Hrs. typical; "W": Yes (UL system may require caulk).

* + - 1. Physical Properties, Performance:
         1. Contains no solvents or carcinogenic fillers.
         2. Color: Gray or Black.
         3. Material Shelf Life: Indefinite:
         4. Heat Expansion Begins: 375 degrees F (191 degrees C).
         5. Greatest Expansion: 575 to 1100 degrees F (302 to 593 degrees C).
         6. Constrained Expansion: Greater than or equal to 18 times volume.
         7. Free Expansion: Greater than or equal to 37 times volume.
         8. Expansion After Accelerated Weathering; Tested to UL 1479:

Temperature Aging: Pass. 270 days at 158 degrees F (70 degrees C).

High Humidity Aging: Pass. 180 days at 97 to 100 percent humidity, 95 degrees F (35 degrees C).

Application Temperature Range: 15 to 130 degrees F (Minus 9 to 54 degrees C).

Temperature Resistance: Maximum 212 degrees F (100 degrees C).

* + - * 1. Surface Burning Indicates per ASTM E84/UL 723:

Flame Spread: 5.

Smoke Developed: 5.

* + - 1. Material:
         1. Main Sleeve Body and Safety Cap: Polypropylene.
         2. Mid-Body Seal: Thermoplastic Rubber (TPR); mold and fungus resistant per ASTM G21.
         3. Locator Whiskers: Polypropylene.
         4. Fire Ring: 24 ga. cold rolled steel.
         5. Firestop Material: UL Listed Intumescent Composite.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. TELESCOPING HOLLOW SLEEVES; FIRESTOPPING BY OTHERS
     1. HoldRite HydroFlame Pro Series Hollow Sleeves: Height: 7-1/2 to 11-3/4 inch (191 to 298 mm). UL Listed when installed per UL System Drawings, with backing material and fire caulking. Can be cut as short as 2-1/2 inch (64 mm). For use with metallic pipes 1/2 thru 6 inch (13 to 152 mm) and for non-metallic pipes 1/2 thru 2 inches (13 to 51 mm). Mid-Body Water Seal is available. Safety Caps are OSHA compliant hole covers and include "Locator Whiskers". UL F-Rating can achieve 2 or 3 hours. UL T, L and W Ratings can also be achieved when installed per UL Systems. FBC System Compatible.
        1. Model HFP-H2. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 1/4 to 1-1/4 inch (6 to 32 mm).
        2. Model HFP-H3. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 1 to 2 inch (25 to 51 mm).
        3. Model HFP-H4. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 1-1/4 to 3 inch (32 to 76 mm).
        4. Model HFP-H5. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 2-1/2 to 4 inch (64 to 102 mm).
        5. Model HFP-H6. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 3 to 5 inch (76 to 127 mm).
        6. Model HFP-H7. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 4 to 6 inch (102 to 152 mm).
        7. Material:
           1. Main Sleeve Body, Base and Safety Cap: Polypropylene.
           2. Locator Whiskers: Polypropylene.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. TELESCOPING HOLLOW SLEEVES WITH ADJUSTABLE CAP; FIRESTOPPING BY OTHERS
     1. HoldRite HydroFlame Pro Series Hollow Sleeves. Height: 7-1/4 to 8 inches (184 to 203 mm). UL Listed Firestop Sleeves when installed per UL System Drawings, with backing material and fire caulking. Base sleeves can be cut as short as 3-1/2 inches (89 mm). For use with metallic pipes 1/2 thru 6 inch (13 to 152 mm) and for non-metallic pipes 1/2 thru 2 inches (13 to 51 mm). Mid-Body Water Seal is available. Safety Caps are OSHA compliant hole covers and include "Locator Whiskers". UL F-Rating can achieve 2 or 3 hours. UL T, L and W Ratings can also be achieved when installed per UL Systems. FBC System Compatible.
        1. Model HFP-H2B. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 1/4 to 1-1/4 inch (6 to 32 mm).
        2. Model HFP-H3B. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 1 to 2 inch (25 to 51 mm).
        3. Model HFP-H4B. Penetrating Pipe Type: Plastic and Metal.
           1. Nominal Penetrant Size: 1-1/4 to 3 inch (32 to 76 mm).
        4. Model HFP-H5B. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 2-1/2 to 4 inch (64 to 102 mm).
        5. Model HFP-H6B. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 3 to 5 inch (76 to 127 mm).
        6. Model HFP-H7B. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 4 to 6 inch (102 to 152 mm).
        7. Material:
           1. Main Sleeve Body, Base and Safety Cap: Polypropylene.
           2. Locator Whiskers: Polypropylene.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. LARGE DIAMETER SLEEVES
     1. HOLDRITE HydroFlame Firestop Sleeves: Height: 8 inches (203 mm). Sleeving and firestop solutions for cast-in-place concrete floors. Sleeves provide for 8, 10, and 12 inch (203, 254, 305 mm) metallic and non-metallic pipes, insulated and non-insulated. For slabs 6 inches (152 mm) and thicker; 2 and 3 hour Fire Ratings. Sleeves are for use on flat form decks. 1 inch (25 mm) tall extensions are available. Each sleeve includes an OSHA-compliant hole cover plate and safety cap. Includes built in Riser Clamp Bearing Plates. FBC system compatible.
        1. Model HF-M8, Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 6 inch (152 mm) CTS - 8 inch (203 mm) IPS.
        2. Model HF-M10, Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 8 inch (203 mm) CTS - 10 inch (254 mm) IPS.
        3. Model HF-M12, Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 10 inch (254 mm) CTS - 12 inch IPS (305 mm).
        4. Model HF-P8, Penetrating Pipe Type: Plastic and metal.
           1. Nominal Penetrant Size: 6 inch (152 mm) CTS - 8 inch (203 mm) IPS.
        5. Model HF-P10, Penetrating Pipe Type: Plastic and metal.
           1. Nominal Penetrant Size: 8 inch (203 mm) CTS - 10 inch (254 mm) IPS.
        6. Extensions: Provides height extensions in 1 inch (25 mm) increments.
           1. HFEXT81, 8 inch (203 mm) Extension Sleeve.
           2. HFPEXT101, 10, inch (254 mm) Extension Sleeve.
           3. HFEXT121, 12 inch (305 mm) Extension Sleeve.
           4. Two extensions can be combined to form a water dam.
        7. Product Test Criteria:
           1. UL Fire Tested and Listed to UL1479 (ASTM E814) and CAN/ULC S115.
           2. UL Ratings (consult individual product specs and UL Systems):

"L": Yes; "F": 3 Hrs. typical; "W": Yes (UL system may require caulk).

* + - 1. Intumescent Fire Wrap Physical Properties, Performance:
         1. Contains no solvents or carcinogenic fillers.
         2. Color: Gray or Black.
         3. Material Shelf Life: Indefinite:
         4. Heat Expansion Begins: 375 degrees F (191 degrees C).
         5. Greatest Expansion: 575 to 1100 degrees F (302 to 593 degrees C).
         6. Constrained Expansion: Greater than or equal to 18 times volume.
         7. Free Expansion: Greater than or equal to 37 times volume.
         8. Expansion After Accelerated Weathering; Tested to UL 1479:

Temperature Aging: Pass. 270 days at 158 degrees F (70 degrees C).

High Humidity Aging: Pass. 180 days at 97 to 100 percent humidity, 95 degrees F (35 degrees C).

Application Temperature Range: 15 to 130 degrees F (Minus 9 to 54 degrees C).

Temperature Resistance: Maximum 212 degrees F (100 degrees C).

* + - 1. Surface Burning Indicates per ASTM E84/UL 723:
         1. Flame Spread: 5.
         2. Smoke Developed: 5.
      2. Material:
         1. Main Sleeve Body: PVC.
         2. Safety Cap: 11 ga. steel.
         3. Smoke Seal: Intumescent Foam.
         4. Fire Ring: 18 ga. steel.
         5. Firestop Material: UL Listed Intumescent Composite.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. LARGE DIAMETER HOLLOW SLEEVES
     1. HOLDRITE HydroFlame Firestop Hollow Sleeves: Height: 8 inches (203 mm). Sleeving solutions for cast-in-place concrete floors. Sleeves provide for 10, 12, and 14 inch (254, 305, 356 mm) and metallic and non-metallic pipes, insulated and non-insulated. Sleeves are for use on flat form decks. 1 inch (25 mm) tall extensions are available. Each sleeve includes an OSHA compliant hole cover plate and safety cap. FBC System Compatible.
        1. Model HF-H10. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 6 inch (152 mm) CTS - 8 inch (203 mm) IPS.
        2. Model HF-H12. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 8 inch (203 mm) CTS - 10 inch (254 mm) IPS.
        3. Model HF-H114. Penetrating Pipe Type: Metal.
           1. Nominal Penetrant Size: 10 inch (254 mm) CTS - 12 inch IPS (305 mm).
        4. Extensions: Provides height extensions in 1 inch (25 mm) increments.
           1. HFEXT81, 8 inch (203 mm) Extension Sleeve.
           2. HFPEXT101, 10, inch (254 mm) Extension Sleeve.
           3. HFEXT121, 12 inch (305 mm) Extension Sleeve.
           4. Two extensions can be combined to form a water dam.
        5. Material:
           1. Main Sleeve Body: PVC.
           2. Safety Cap: 11 ga. Steel.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. TUB BOXES
     1. HOLDRITE HydroFlame Pro Series Tub Box, 2 and 3 inches (52 and 76 mm). UL Listed firestop device for bathtub drains. Metallic or nonmetallic drain piping can be used. Thin wall drain piping requires a rubber tub box donut. Nominal 1-1/2 inch (38 mm) IPS sized drain piping does not require a rubber donut. Tub box assembled heights are 8, 9 and 10 inches (203, 229, 254 mm). Kit can be cut to 5-3/4 inch (146 mm) height by cutting 2-1/4 inches (57 mm) off the 2 or 3 inch (51 or 76 mm) spigot adapters and tub box legs. Rear legs are adjustable for 8 to 10 inch (203 to 254 mm) Tub Box heights.
        1. Sleeve ID 2.83 inches (72 mm) diameter.
           1. Model HFPLTB-NP-0200-8. Slab Thickness: 8 inches (203 mm).
           2. Model HFPLTB-TW-0200-8. Slab Thickness: 8 inches (203 mm).
           3. Model HFPLTB-NP-0200-9. Slab Thickness: 9 inches (229 mm).
           4. Model HFPLTB-TW-0200-9. Slab Thickness: 9 inches (229 mm).
           5. Model HFPLTB-NP-0200-10. Slab Thickness: 10 inches (254 mm).
           6. Model HFPLTB-TW-0200-10. Slab Thickness: 10 inches (254 mm).
        2. Sleeve ID 3.74 inches (95 mm) diameter.
           1. Model HFPLTB-NP-0300-8. Slab Thickness: 8 inches (203 mm).
           2. Model HFPLTB-TW-0300-8. Slab Thickness: 8 inches (203 mm).
           3. Model HFPLTB-NP-0300-9. Slab Thickness: 9 inches (229 mm).
           4. Model HFPLTB-TW-0300-9. Slab Thickness: 9 inches (229 mm).
           5. Model HFPLTB-NP-0300-10. Slab Thickness: 10 inches (254 mm).
           6. Model HFPLTB-TW-0300-10. Slab Thickness: 10 inches (254 mm).
        3. Product Test Criteria:
           1. UL Fire Tested and Listed to UL1479 (ASTM E814) and CAN/ULC S115.
           2. UL Ratings (consult individual product specs and UL Systems):

"L": Yes; "F": 3 Hrs. typical; "W": Yes (UL system may require caulk).

* + - 1. Intumescent Fire Wrap Physical Properties, Performance:
         1. Contains no solvents or carcinogenic fillers.
         2. Color: Gray or Black.
         3. Material Shelf Life: Indefinite:
         4. Heat Expansion Begins: 375 degrees F (191 degrees C).
         5. Greatest Expansion: 575 to 1100 degrees F (302 to 593 degrees C).
         6. Constrained Expansion: Greater than or equal to 18 times volume.
         7. Free Expansion: Greater than or equal to 37 times volume.
         8. Expansion After Accelerated Weathering; Tested to UL 1479:

Temperature Aging: Pass. 270 days at 158 degrees F (70 degrees C).

High Humidity Aging: Pass. 180 days at 97 to 100 percent humidity, 95 degrees F (35 degrees C).

Application Temperature Range: 15 to 130 degrees F (Minus 9 to 54 degrees C).

Temperature Resistance: Maximum 212 degrees F (100 degrees C)

* + - 1. Surface Burning Indicates per ASTM E84/UL 723:
         1. Flame Spread: 5.
         2. Smoke Developed: 5.
      2. Material:
         1. Tub Box Shell, Legs: ABS.
         2. Spigot Adapters: PVC.
         3. Box Insert: Expanded Polystyrene or similar.
    1. HOLDRITE HydroFlame Pro Series Tub Box, 10 inch Plus Slab. UL Listed firestop device for bathtub drains. Metallic or nonmetallic drain piping can be used. Thin wall drain piping requires a rubber tub box donut (included with the HFPTB-TW-0200-X). Nominal 1-1/2 inch (38 mm) IPS sized drain piping does not require a rubber donut. Tub box assembled height is 10-1/2 inches (267 mm). Kit can be cut to 6 inch height. Rear legs can be cut for slab heights less than 10-1/2 inch (267 mm). Pipe couplers and pipe (3/4 inch Sch 40 PVC) can be used to extend legs for slab heights greater than 10-1/2 inches (267 mm). For thicker slabs, add HFP sleeve extensions.
       1. Sleeve ID 2.88 inches (73 mm) diameter.
          1. Model HFPTB-NP-0200. Slab Thickness: 10-1/2 to 14-3/4 inches (267 to 375 mm).
          2. Model HFPTB-TW-0200. Slab Thickness: 10-1/2 to 14-3/4 inches (267 to 375 mm).
       2. Product Test Criteria:
          1. UL Fire Tested and Listed to UL1479 (ASTM E814) and CAN/ULC S115.
          2. UL Ratings (consult individual product specs and UL Systems):

"L": Yes; "F": 3 Hrs. typical; "W": Yes (UL system may require caulk).

* + - 1. Intumescent Fire Wrap Physical Properties, Performance:
         1. Contains no solvents or carcinogenic fillers.
         2. Color: Gray or Black.
         3. Material Shelf Life: Indefinite:
         4. Heat Expansion Begins: 375 degrees F (191 degrees C).
         5. Greatest Expansion: 575 to 1100 degrees F (302 to 593 degrees C).
         6. Constrained Expansion: Greater than or equal to 18 times volume.
         7. Free Expansion: Greater than or equal to 37 times volume.
         8. Expansion After Accelerated Weathering; Tested to UL 1479:

Temperature Aging: Pass. 270 days at 158 degrees F (70 degrees C).

High Humidity Aging: Pass. 180 days at 97 to 100 percent humidity, 95 degrees F (35 degrees C).

Application Temperature Range: 15 to 130 degrees F (Minus 9 to 54 degrees C).

Temperature Resistance: Maximum 212 degrees F (100 degrees C).

* + - 1. Surface Burning Indicates per ASTM E84/UL 723:
         1. Flame Spread: 5.
         2. Smoke Developed: 5.
      2. Material:
         1. Tub Box Shell, Legs: ABS.
         2. Spigot Adapters: PVC.
         3. Box Insert: Expanded Polystyrene or similar.
         4. Sleeve: Polypropylene.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. AERATOR ADAPTERS:
     1. HOLDRITE HydroFlame Pro Series Aerator Adapter: Attaches to underside of Pro Series cast-in-place firestop sleeves. Provides an enlarged void useful for recessed fitting joints in concrete ceilings. UL-Listed accessory when used with HoldRite's Hydroflame Pro Series Sleeves. For use in concrete floors as thin as 5-1/2 inches (140 mm). FBC compatible.
        1. Model HFPA2. For No. 2 Firestop Sleeves, No. 3 Hollow Sleeves.
           1. Penetrant Size: 1/4 to 2 inches (6 to 51 mm).
           2. Height: 2-5/8 inches (67 mm).
           3. Material: Polypropylene.
        2. Model HFPA3. For No. 3 Firestop Sleeves, No. 4 Hollow Sleeves.
           1. Penetrant Size: 1-1/4 to 3 inches (32 to 76 mm).
           2. Height: 2-5/8 inches (67 mm).
           3. Material: Polypropylene.
        3. Model HFPA4. For No. 4 Firestop Sleeves, No. 5 Hollow Sleeves.
           1. Penetrant Size: 2-1/2 to 4 inches (64 to 102 mm).
           2. Height: 4 inches (102 mm).
           3. Material: Polypropylene.
        4. Model HFPA5. For No. 5 Firestop Sleeves, No. 6 Hollow Sleeves.
           1. Penetrant Size: 4 to 5 inch (102 to 127 mm)es.
           2. Height: 4 inches (102 mm).
           3. Material: Polypropylene.
        5. Model HFPA6. For No. 6 Firestop Sleeves, No. 7 Hollow Sleeves.
           1. Penetrant Size: 4 to 6 inches (102 to 152 mm).
           2. Height: 3-1/2 inches.
           3. Material: CRS.
     2. Custom Built Aerator Adapter:
        1. Model AA-0304. Penetrant Size: 3 or 4 inches (76 or 102 mm). Material: Polypropylene.
           1. Pipe Types: PVC, ABS, No-Hub Cast Iron.
           2. Size: 3 or 4 inch (76 or 102 mm).
           3. Material: 24 ga. galvanized cold rolled steel.
           4. Load Rating: 25 lbs (11.3 kg).
        2. Model AA-06. Penetrant Size: 6 inches. Material: Polypropylene.
           1. Pipe Types: PVC, ABS, No-Hub Cast Iron.
           2. Size: 6 inch (152 mm).
           3. Material: 24 ga. galvanized cold rolled steel.
           4. Load Rating: 25 lbs (11.3 kg).
        3. Tested in accordance with ASTM E90.
        4. Material:
           1. Body: 2, 3, 4, and 5 inches (51, 76, 102, 127 mm): Polypropylene.
           2. Body (6 inch): 24 ga. cold rolled steel.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. CABLE AND LINE SET SLEEVES
     1. HOLDRITE HydroFlame Pro Series Firestop Cable and Line Set Sleeves: UL Listed Firestop Devices provide 3-hour fire ratings, and "T", "L" and "W" ratings, when installed per UL system drawings. Telescoping Firestop Sleeves: 7-1/2 to 11-3/4 inch (191 to 298 mm). Firestop Sleeves: 7-1/4 to 8 inches (184 to 203 mm). Adjustable caps available. Sleeves approved to accept up to 45 percent cable fill, refrigeration line-sets and multiple small pipes. Six sleeve size varieties available. Optional "CD Plate" can be used for metal deck forms.
        1. Model HFP-CSM2: Penetrating Pipe Type: Cables.
           1. Pipe and Cable Size: 45 percent.
        2. Model HFP-CSM3: Penetrating Pipe Type: Cables.
           1. Pipe and Cable Size: 45 percent.
        3. Model HFP-CSM2B: Penetrating Pipe Type: Cables.
           1. Pipe and Cable Size: 45 percent.
        4. Model HFP-CSM3B: Penetrating Pipe Type: Cables.
           1. Pipe and Cable Size: 45 percent.
        5. Model HFP-LSP3: Penetrating Pipe Type: Line-sets and multiple pipes.
           1. Pipe and Cable Size: Various, including insulation.
        6. Model HFP-LSP3B: Penetrating Pipe Type: Line-sets and multiple pipes.
           1. Pipe and Cable Size: Various, including insulation.
        7. Product Test Criteria:
           1. UL Fire Tested and Listed to UL1479 (ASTM E814) and CAN/ULC S115.
           2. UL Ratings (consult individual product specs and UL Systems):

"L": Yes; "F": 3 Hrs. typical; "W": Yes (UL system may require caulk).

* + - 1. Intumescent Fire Wrap Physical Properties, Performance:
         1. Contains no solvents or carcinogenic fillers.
         2. Color: Gray or Black.
         3. Material Shelf Life: Indefinite:
         4. Heat Expansion Begins: 375 degrees F (191 degrees C).
         5. Greatest Expansion: 575 to 1100 degrees F (302 to 593 degrees C).
         6. Constrained Expansion: Greater than or equal to 18 times volume.
         7. Free Expansion: Greater than or equal to 37 times volume.
         8. Expansion After Accelerated Weathering; Tested to UL 1479:

Temperature Aging: Pass. 270 days at 158 degrees F (70 degrees C).

High Humidity Aging: Pass. 180 days at 97-100 percent humidity, 95 degrees F (35 degrees C).

Application Temperature Range: 15 to 130 degrees F (Minus 9 to 54 degrees C).

Temperature Resistance: Maximum 212 degrees F (100 degrees C).

* + - * 1. Surface Burning Indicates per ASTM E84/UL 723:

Flame Spread: 5.

Smoke Developed: 5.

* + - 1. Material:
         1. Main Sleeve Body, Base and Safety Cap: Polypropylene.
         2. Mid-Body Seal: Thermoplastic Rubber (TPR); Mold and Fungus resistant per ASTM G21.
         3. Locator Whiskers: Polypropylene.
         4. Fire Ring: 24 ga. cold rolled steel.
         5. Firestop Material: UL Listed Intumescent Composite.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. CABLE AND LINE CUSTOM BUILT SET SLEEVES
     1. HOLDRITE HydroFlame Pro Series Firestop Cable and Line Custom Built Set Sleeves. For use in Concrete floor assemblies with flat form decks. Dust and fiber free environments such as hospitals, computer centers and laboratories. Offer fire and water protection for lines passing through concrete floors in single and multi-story buildings. Sleeves are delivered to job site assembled needing only be fastened to the form deck for installation. Pre-cut at factory to your specified height. OSHA compliant safety cap. Nonmetallic and Metallic Through Penetrants. Line set for HVAC. Helps prevent water, fire, smoke, moisture, and mold intrusion. Not for use in Walls.
        1. Physical Properties:
           1. Color: Gray/Black.
        2. Heat Expansion (Intumescence):
           1. Expansion Begins: 410 degrees F (210 degrees C).
           2. Significant Expansion: 555 degrees F (290 degrees C).
           3. Free Expansion: 25 times; 5 min at 662 degrees (350 degrees C).
        3. Weatherability: Tested to ASTM G23 and G53.
           1. Test Condition Temperature: 90 degrees F (32 degrees C). Humidity: 90 percent.
           2. Time: 120 Days.
           3. After Exposure, No change in expansion.
        4. Surface Burning Characteristics per ASTM E84, UL 723.
           1. Flame spread index: 0.
           2. Smoke development index: 5.
        5. Testing Data:
           1. UL Fire Tested and Listed to UL 1479 (ASTM E814):

L Rating UL.

W Rating UL.

F Rating UL - 3 Hours.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. SLEEVE EXTENSIONS
     1. HOLDRITE Hydroflame Pro Series Sleeve Extensions: Available to fit a wide variety of Sleeve combinations, from 1 thru 6 inch (25 to 152 mm) sizes. Each extension adds up to 4-3/4 inches (121 mm) of height in 1/4 inch (6 mm) increments. No coupling is needed, Height markings are shown on each part, in both U.S. and metric.
        1. Model HFPE1: No. 1 Firestop Sleeve. No. 2. Hollow Sleeves.
           1. Pipe Size: 1/4 to 1-1/4 inch (6 to 32 mm).
        2. Model HFPE2: No. 2 Firestop Sleeve. No. 3. Hollow Sleeves.
           1. Pipe Size: 1 to 2 inch (25 to 51 mm).
        3. Model HFPE3: No. 3 Firestop Sleeve. No. 4. Hollow Sleeves.
           1. Pipe Size: 1-1/4 to 3 inch (32 to 76 mm).
        4. Model HFPE4: No. 4 Firestop Sleeve. No. 5. Hollow Sleeves.
           1. Pipe Size: 2-1/2 to 4 inch (64 to 102 mm).
        5. Model HFPE5: No. 5 Firestop Sleeve. No. 6. Hollow Sleeves.
           1. Pipe Size: 4 to 5 inch (102 to 127 mm).
        6. Model HFPE6: No. 6 Firestop Sleeve. No. 7. Hollow Sleeves.
           1. Pipe Size: 5 to 6 inch (127 to 152 mm).
        7. Model Tested in accordance with ASTM E90.
        8. Body Material: Polypropylene.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. PLASTIC DRAIN SLEEVES
     1. HOLDRITE HydroFlame Pro Series Shower Drain Sleeve: For drain bodies recessed into a concrete floor, such as with a shower pan or shower stall. A UL Listed Firestop Device that includes a water-tight mid-body seal and built-in firestop materials. Adjustable in height for slabs 5 inches (127 mm) and thicker and provides a 3 hour F-rating. Optional "CD Plate" can be used when mounting to metal pan deck forms. Upper assembly includes a Styrofoam insert pad, to block concrete during pour.
        1. Model: HFP-SH2-DRN. Penetrating Pipe Type: Plastic. Pipe Size: 2 inch (51 mm)
        2. Product Test Criteria:
           1. UL Fire Tested and Listed to UL1479 (ASTM E814) and CAN/ULC S115.
           2. UL Ratings (consult individual product specs and UL Systems):

"L": Yes; "F": 3 Hrs. typical; "W": Yes (UL system may require caulk).

* + - 1. Intumescent Fire Wrap Physical Properties, Performance:
         1. Contains no solvents or carcinogenic fillers.
         2. Color: Gray or Black.
         3. Material Shelf Life: Indefinite:
         4. Heat Expansion Begins: 375 degrees F (191 degrees C).
         5. Greatest Expansion: 575 to 1100 degrees F (302 to 593 degrees C).
         6. Constrained Expansion: Greater than or equal to 18 times volume.
         7. Free Expansion: Greater than or equal to 37 times volume.
         8. Expansion After Accelerated Weathering; Tested to UL 1479:

Temperature Aging: Pass. 270 days at 158 degrees F (70 degrees C).

High Humidity Aging: Pass. 180 days at 97 to 100 percent humidity at 95 degrees F (35 degrees C).

Application Temperature Range: 15 to 130 degrees F (Minus 9 to 54 degrees C).

Temperature Resistance: Maximum 212 degrees F (100 degrees C).

* + - 1. Surface Burning Indicates per ASTM E84/UL 723:
         1. Flame Spread: 5.
         2. Smoke Developed: 5.
      2. Tested in accordance with ASTM E90.
      3. Material:
         1. Main Sleeve Body, Base and Drain Receiver: Polypropylene.
         2. Mid-Body Seal: Thermoplastic Rubber (TPR); Mold and Fungus resistant per ASTM G21.
         3. Firestop Material: UL Listed Intumescent Composite.
         4. Insert: Expanded Polystyrene or similar.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. CAST IRON DRAIN SLEEVES
     1. HOLDRITE Hydroflame Pro Series Cast Iron Floor Drain Sleeves: Drain not included. Accept 2, 3, 4, and 6 inch (51, 76, 102, and 152 mm) cast iron floor drains, with neo-lock style rubber gasket outlet. Cut sleeve to desired height. Secure sleeve to the form deck by installer's preferred method. Sleeve includes a Mid-Body Seal to enhance watertightness. Adapting to some drains may require optional extension, available separately.
        1. Model HFP-2CI-DRN: Penetrating Pipe Type: Hubless Cast Iron.
           1. Pipe Size: 2 inch (51 mm).
        2. Model HFP-23CI-DRN: Penetrating Pipe Type: Hubless Cast Iron.
           1. Pipe Size: 2 to 3 inch (51 to 76 mm).
        3. Model HFP-34CI-DRN: Penetrating Pipe Type: Hubless Cast Iron.
           1. Pipe Size: 2 to 3 inch (51 to 76 mm).
        4. Model HFP-6CI-DRN: Penetrating Pipe Type: Hubless Cast Iron
           1. Pipe Size: 6 inch (152 mm).
        5. Product Test Criteria:
           1. UL Fire Tested and Listed to UL1479 (ASTM E814) and CAN/ULC S115.
           2. UL Ratings (consult individual product specs and UL Systems):

"L": Yes; "F": 3 Hrs. typical; "W": Yes (UL system may require caulk).

* + - * 1. Tested in accordance with ASTM E90.
      1. Material:
         1. Main Body and Base: Polypropylene.
         2. Mid-Body Seal: Thermoplastic Rubber (TPR); Mold and Fungus
         3. resistant per ASTM G21.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. CLOSET FLANGE SLEEVES
     1. HOLDRITE Hydroflame Pro Series Closet Flange Sleeves: UL Listed Firestop Devices. Accept 3 or 4 inch (76 or 102 mm) plastic or no-hub closet flanges and drainpipes. Provide 3-hour "F" and "T" ratings and "L" and "W" ratings for concrete slabs 2-1/2 inch (64 mm) and thicker. Sleeves have a mid-body seal and built-in firestop materials. A "CD Plate" can be added for use on metal deck forms.
        1. Model HFP-CF3PL. Penetrating Pipe Type: Plastic.
           1. Pipe Size: 3 inch (76 mm).
        2. Model HFP-CF4PL. Penetrating Pipe Type: Plastic.
           1. Pipe Size: 3 to 4 inch (76 to102 mm)
        3. Model HFP-CF3NH. Penetrating Pipe Type: Hubless Cast Iron.
           1. Pipe Size: 3 inch (76 mm).
        4. Model HFP-CF4NH. Penetrating Pipe Type: Hubless Cast Iron.
           1. Pipe Size: 3 to 4 inch (76 to102 mm)
        5. Product Test Criteria:
           1. UL Fire Tested and Listed to UL1479 (ASTM E814) and CAN/ULC S115.
           2. UL Ratings (consult individual product specs and UL Systems):

"L": Yes; "F": 3 Hrs. typical; "W": Yes (UL system may require caulk).

* + - 1. Intumescent Fire Wrap Physical Properties, Performance:
         1. Contains no solvents or carcinogenic fillers.
         2. Color: Gray or Black.
         3. Material Shelf Life: Indefinite:
         4. Heat Expansion Begins: 375 degrees F (191 degrees C).
         5. Greatest Expansion: 575 to 1100 degrees F (302 to 593 degrees C).
         6. Constrained Expansion: Greater than or equal to 18 times volume.
         7. Free Expansion: Greater than or equal to 37 times volume.
         8. Expansion After Accelerated Weathering; Tested to UL 1479:

Temperature Aging: Pass. 270 days at 158 degrees F (70 degrees C).

High Humidity Aging: Pass. 180 days at 97 to 100 percent humidity, 95 degrees F (35 degrees C).

Application Temperature Range: 15 to 130 degrees F (Minus 9 to 54 degrees C)

Temperature Resistance: Maximum 212 degrees F (100 degrees C)

* + - 1. Surface Burning Indicates per ASTM E84/UL 723:
         1. Flame Spread: 5.
         2. Smoke Developed: 5.
      2. Material:
         1. Main Sleeve Body, Base and Safety Cap: Polypropylene.
         2. Mid-Body Seal: Thermoplastic Rubber (TPR); Mold and Fungus resistant per ASTM G21.
         3. Locator Whiskers: Polypropylene.
         4. Fire Ring: 24 ga. cold rolled steel.
         5. Firestop Material: UL Listed Intumescent Composite.
         6. HydroFlame Pro Sleeve tested in accordance with ASTM E90.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. CORRUGATED METAL DECK PLATES FOR TELESCOPING FIRESTOP SLEEVES
     1. HOLDRITE Hydroflame Corrugated Metal Deck Plates: Transition cast-in-place firestop sleeving devices from use on a flat form deck into a sleeve for use on a corrugated metal form deck. Available for all Pro Series Sleeve sizes. Steel plate snaps onto the Base of the sleeve securely. No. 8 screws can be added for increased strength. FBC system compatible.

\*\* NOTE TO SPECIFIER \*\* Use with HFP-P/M1, HFP-P/M1B, HFP-H2, HFP-H2B. Delete if not required.

* + - 1. Model HFPCD1. Penetrating Pipe Type: Plastic and Metal.
         1. Pipe Size: 1/4 to 1-1/4 inch. Material: 18 ga. galvanized cold rolled steel.

\*\* NOTE TO SPECIFIER \*\* Use with HFP-P/M2, HFP-P/M2B, HFP-H3, HFP-H3B. Delete if not required.

* + - 1. Model HFPCD2. Penetrating Pipe Type: Plastic and Metal.
         1. Pipe Size: 1 to 2 inch. Material: 18 ga. galvanized cold rolled steel.

\*\* NOTE TO SPECIFIER \*\* Use with HFP-P/M3, HFP-P/M3B, HFP-H4, HFP-H4B. Delete if not required.

* + - 1. Model HFPCD3. Penetrating Pipe Type: Plastic and Metal.
         1. Pipe Size: 1-1/4 to 3 inch. Material: 18 ga. galvanized cold rolled steel.

\*\* NOTE TO SPECIFIER \*\* Use with HFP-P/M4, HFP-P/M4B, HFP-H5, HFP-H5B. Delete if not required.

* + - 1. Model HFPCD4. Penetrating Pipe Type: Plastic and Metal.
         1. Pipe Size: 2-1/2 to 4 inch. Material: 18 ga. galvanized cold rolled steel.

\*\* NOTE TO SPECIFIER \*\* Use with HFP-P/M5, HFP-P/M5B, HFP-H6, HFP-H6B. Delete if not required.

* + - 1. Model HFPCD5. Penetrating Pipe Type: Plastic and Metal.
         1. Pipe Size: 3 to 5 inch. Material: 18 ga. galvanized cold rolled steel.

\*\* NOTE TO SPECIFIER \*\* Use with HFP-P/M6, HFP-P/M6B, HFP-H7, HFP-H7B. Delete if not required.

* + - 1. Model HFPCD6. Penetrating Pipe Type: Metal.
         1. Pipe Size: 4 to 6 inch Material: 18 ga. galvanized cold rolled steel.

\*\* NOTE TO SPECIFIER \*\* Use with HFP-P/M6, HFP-P/M6B, HFP-H7, HFP-H7B. Delete if not required.

* + - 1. Model HFPCD6-DC. Penetrating Pipe Type: Plastic and Metal.
         1. Pipe Size: 6 inch Material: 18 ga. galvanized cold rolled steel.
         2. Collar Material: 25 ga. Galvanized cold rolled steel.
  1. PIPE COLLARS
     1. HydroFlame Pipe Collars: Prefabricated for open and closed through-penetration firestop systems using 1-1/2 to 6 inch (38 to 152 mm) plastic pipe. An interlocking tab assures fast and easy installation. Collar design greatly reduces time and expense required to install competitive collars.
        1. Model HF-PC-0150 Pipe Collar 1-1/2 inch (38 mm).
        2. Model HF-PC-0200 Pipe Collar 2 inch (51 mm).
        3. Model HF-PC-0300 Pipe Collar 3 inch (76 mm).
        4. Model HF-PC-0400 Pipe Collar 4 inch (102 mm).
        5. Model HF-PC-0600 Pipe Collar 6 inch (152 mm).
        6. Highly intumescent.
        7. FBC system compatible.
        8. Approved for PVC, CPVC, FRPP, ABS and PVC/ABS foam core insulations.
        9. Testing Data:
           1. Classified by Underwriters Laboratories as a Firestop Device.
           2. Tested in accordance with ASTM E814, UL 1479 and CAN/ULC-S115 (Fire Tests of Firestop Systems) test standards.
           3. This product is Clean Air Gold certified.
        10. Material Properties:
            1. Contain no Asbestos Fillers, solvents, or hazardous ingredients.
            2. Activation of intumescence:

Expansion Begins: 375 degrees F (190 degrees C)

Expansion Greatest: 575 degrees F (302 degrees C) to 1100 degrees F (593 degrees C).

* 1. SEALANTS
     1. HydroFlame 50 Smoke and Acoustic Sealant: A smoke and acoustic sealant used to seal around penetrations in non-rated horizontal or vertical construction assemblies. Works in conjunction with and compliments the HoldRite Silencer System. Prevent passage of cold smoke through a penetration opening of the non-rated assembly while also providing an excellent sound barrier by preventing the transfer of airborne sound and other vibrations from passing through. FBC system compatible.
        1. Features:
           1. Easily dispensed using a caulking gun.
           2. Provides a flexible paintable sealant once cured.
           3. Meets LEED criteria.
           4. Low VOC content.
           5. Easily cleans up with water.
           6. Clean Air Gold certified.
        2. Testing Data: Meets the Following: ASTM E84, ASTM E1399, ASTM G21 mold resistance, and a modified UL 1479 and/or ASTM E814. Air leakage was tested at ambient room temperature.
           1. ASTM E84 (UL 723 Tunnel Test).

Flame Spread: 5.

Smoke Index: 0.

STC Rating per ASTM E90 on a U411 wall design: 69.

* + - * 1. This product is Clean Air Gold certified.
      1. Material Properties:
         1. Does not contain asbestos fillers, hazardous ingredients, or solvents.
         2. Density: 10.5 plus or minus 0.5 lbs per gal (1.25 kg per L).
         3. Color: White.
         4. Elastomeric and flexible.
         5. PH Value: 6.5 to 7.
         6. Freeze and Thaw: Exceptional.
         7. L Rating: Less than 1 cfm per sq ft; penetrations.
         8. VOC: Less than 10 grams per L.
         9. Class II and Ill Movement Capability: Plus, or minus 33 percent.
    1. HoldRite HydroFlame 100 Sealant: Elastomeric water based single component non-sag low-intumescent firestop sealant. For use where dynamic movement is expected; new and existing penetrations through interior rated gypsum, concrete, and block walls as well as rated concrete floors, concrete over metal decking floors, and wood floor-ceiling assemblies. Prevents passage of smoke, gasses, and flames through openings around penetrating items. Ready to be dispensed. Does not require thinning or mixing. Dispensed by caulking gun or bulk loader. Easily troweled. Rated up to 4 hours as tested per ASTME E814 or ANSI/UL-1479, and CAN/ULC-S115. FBC System Compatible.
       1. Features:
          1. Flexible (Elastomeric).
          2. Low VOC.
          3. Paintable.
          4. Water based.
          5. Excellent freeze-thaw.
          6. High STC Rating: 65.
          7. Low-intumescent
          8. Clean Air Gold certified.
       2. Testing Data: Tested at positive pressure; 0.01 psi (2.5 Pa) inches water and meets the following: ASTM E814 (UL 1479), ASTM E1966 (UL 2079) and CAN/ULC-S115, and ASTM G21 mold resistance.
          1. ASTM E84 (UL 723 Tunnel Test ).

Flame Spread: 10.

Smoke Index: 0.

STC Rating per ASTM E90 on a U411 wall design: 69.

* + - 1. Material Properties:
         1. Does not contain solvents, asbestos fillers, or hazardous materials.
         2. Application temp: 40 to 120 degrees F (4 to 49 degrees C).
         3. Cure Time: 3 to 4 weeks at 77 degrees F (25 degrees C).
         4. Density: 12.5 plus or minus 0.5 lbs per gal. (1.50 kg per L plus or minus 0.06 kg per L).
         5. Skin over time: 30 minutes at 77 degrees F (25 degrees C).
         6. Color: Red.
         7. Elastomeric and flexible.
         8. PH Value: 7 to 8.
         9. Freeze/thaw: Exceptional.
         10. VOC Negligible.
         11. Volume Coverage:

Cartridge: 10.3 oz. (304 ml). 18 cu. inches (295 cc).

Bucket: 5 gal (19.9 L). 1155 cu inches (18,927 cc).

* + 1. HYDROFLAME 200 Sealant: An elastomeric water based single component non-sag highly intumescent firestop sealant. For use in where dynamic movement is expected in new and existing penetrations through interior rated gypsum, concrete, and block walls as well as rated concrete floors, concrete over metal decking floors, and wood floor ceiling assemblies. Prevents passage of smoke, gasses, and flames through openings around penetrating items. Does not require thinning or mixing. Install with caulking gun or bulk loader. Easily troweled, rated up to 4 hours as tested in conformance to ASTM E814, ANSI/UL 1479 AND CAN/ULC-S115.
       1. Testing Data:
          1. Tested at positive pressure 0.01 (2.5 Pa) inches water per ASTM E814 (UL 1479), ASTM E1966 (UL 2079) and CAN/U LC-S115.
          2. Sound Transmission Class (STC) per ASTM 90: 66.
          3. ASTM G21 Mold Resistance: Zero mold and fungal growth.
          4. ASTM E84 UL 723 Tunnel Test).

Flame Spread: 0.

Smoke Index: 0.

* + - * 1. Th is product is Clean Air Gold certified.
      1. Material Properties:
         1. Does not contain any solvents, asbestos fillers, or hazardous materials.
         2. Application temp: 40 to 120 degrees F (4 to 49 degrees C).
         3. Intumescent expansion: Begins at 375 degrees F (190 degrees C)
         4. Greatest between 575 to 1100 degrees F (302 to 593 degrees C).
         5. Cure Time: 3 to 4 weeks at 77 degrees F (25 degrees C).
         6. Density: 11 plus or minus 0.5 lbs per gal (1.32 plus or minus 0.06 kg per L).
         7. Skin over time: 30 minutes at 77 degrees F (25 degrees C).
         8. Color: Red.
         9. Elastomeric and flexible.
         10. PH Value 6.5 to 7.
         11. Density 10.5 plus or minus 0.5 lbs per gal (1.26 plus or minus 0.06 kg per L).
         12. Freeze and Thaw: Exceptional.
         13. VOC: 10 g/L.
         14. Volume Coverage: 10.3 oz cartridge (304 ml). 18 cu in (295 cc).
         15. Volume Coverage: 5 gallon buckets. 1155 cu inches (18927 cc).
    1. HoldRite HydroFlame 300 Caulk Grade Silicone Firestop Sealant, HF300CG: For areas where water washout is a concern or in floor conditions requiring a UL listed W Rating. Single component neutral curing silicone. No thinning or mixing. Flexible at plus or minus 33 percent movement capabilities. Can handle areas where vibrations or movement of penetrants are expected. Use with a variety of penetrants; metal pipes, plastic pipes, cables and cable trays, metal ductwork, and multiple penetrations in either gypsum or concrete/CMU walls or in concrete floor conditions. FBC System Compatible. Will not degrade sensitive plastic pipes like CPVC.
       1. Testing Data: Meets the following standards.
          1. Tested at a positive pressure with a minimum 0.01 (2.5 Pa) inches water and per ASTM E814 (UL 1479) and CAN/ULC-Sl15.
          2. ASTM E84 (UL 723 Tunnel Test):

Flame spread: 0.

Smoke Development: 15.

* + - * 1. ASTM C794 Peel Test: 5 to 40 substrates dependent.
        2. ASTM E96 Permeability and antifungal properties.
        3. ASTM C793 Ozone and UV Resistance Test: Pass .
        4. Neutral pH and Effects of Accelerated Aging: Pass.
        5. VOC Content EPA Method 310 test: 26 g/L.
        6. This product is UL GreenGuard Certified.
      1. Material Properties:
         1. A single component non sag neutral curing caulk grade silicone firestop sealant.
         2. Application Temperature: Minus 40 to 300 degrees F (Minus 40 to 149 degrees C).
         3. Skin over tack free time: 18 to 26 minutes at 77 degrees F (25 degrees C)
         4. Product color: Limestone Grey.
         5. ASTM E96 Antifungal additives to resist the growth of mold or fungus.
         6. Flexible: Plus, or minus 33 percent movement.
         7. pH Value: Neutral.
         8. Freeze and Thaw: Exceptional.
         9. VOC Negligible: 0 g/L per EPA Method 310 test.
         10. ASTM E84, UL 723 Tunnel Test,

Flame Spread: 0.

Smoke Index: 15.

* + - * 1. Material Density: 0.05 lbs per cu in (1.37 grams per cu cm).
        2. Volume Shrinkage: 0 to 5 percent.
    1. HoldRite HydroFlame 300 Self Leveling Silicone Firestop Sealant, HF300SL: For floor areas where water washout is a concern or when penetrations require a UL listed W Rating. Single component neutral curing silicone. Does not require thinning or mixing. Can also be poured out of a 4.5 gallon bucket. Flexible and tested at plus or minus 33 percent movement capabilities. Can handle areas where vibrations or movement of penetrants are expected. For use with a wide variety of penetrants including metal pipes, plastic pipes, cables and cable trays, metal ductwork, and multiple penetrations in concrete floor conditions. FBC System Compatible. Will not degrade sensitive plastic pipes like CPVC.
    2. Testing Data: Meets the following ASTM and industry standards.
       1. Tested at a positive pressure with a minimum 0.01 (2.5 Pa) inches water and per ASTM E814 (UL 1479) and CAN/ULC-S115.
       2. ASTM E84 (UL 723 Tunnel Test):
          1. Flame Spread: 0.
          2. Smoke Development: 15.
          3. ASTM C794 Peel Test (5 to 40 substrates dependent).
          4. ASTM E96 Permeability and antifungal properties.
          5. ASTM C793 Ozone and UV Resistance test: Pass.
          6. Neutral pH and Effects of Accelerated Aging: Pass.
          7. VOC Content EPA Method 310 test: 26 g/L.
          8. UL GreenGuard Certified.
       3. Material Properties:
          1. Single component neutral curing self-leveling grade silicone firestop sealant.
          2. Application Temperature: Minus 40 to 300 degrees F (Minus 40 to 149 degrees C).
          3. Skin over tack free time: 18 to 26 minutes at 77 degrees F (25 degrees C).
          4. Product color: Limestone Grey.
          5. ASTM E96 Antifungal additives to resist the growth of mold or fungus.
          6. Flexible: Plus, or minus 33 percent movement.
          7. pH Value: Neutral.
          8. Freeze and Thaw: Exceptional.
          9. VOC Negligible: O g/L per EPA Method 310 test.
          10. ASTM E84, UL 723 Tunnel Test.

Flame Spread: 0.

Smoke Index: 15 .

* + - * 1. Material Density: 1.37 grams per cu cm.
        2. Volume Shrinkage: 0 to 5 percent.
  1. WRAP STRIPS
     1. HoldRite HydroFlame Wrap Strips: A high performance highly intumescent flexible wrap strip firestop material designed to expand when exposed to heat. Use around combustible pipes and insulated pipes as a solution to seal off challenging penetrations in event of a fire. When Wrap Strip intumesces due to heat, it forms a robust char sealing off the opening around the penetrating items or will close off completely the annular space that is exposed once combustible pipes melt away. Prevents passage of hot gasses and flames to migrate to the other side of a fire rated assembly. FBC system compatible.
        1. HF-WS14-0100. Size: 1 x 1/4 inches x 12 ft (25 x 6 mm x 3.66 m).
        2. HF-WS14-0200. Size: 2 x 1/4 inches x 12 ft (50 x 6 mm x 3.66 m).
        3. Testing Data:
           1. Listed as a fill, void or cavity material and classified by Underwriters Laboratories, Inc.
           2. Tested at positive pressure for a minimum .01 inches (2.5 Pa) of water per UL 1479 and ASTM E814, CAN/ULC-S115 (Fire Tests of Firestop Systems) test standards.
           3. Complies to Required Environmental Exposure Testing of Accelerated Aging and High Humidity as per UL 1479 Fire Test of Through Penetration Firestops.
           4. ASTM E 84, UL 723 Tunnel Test:

Flame Spread: 5.

Smoke Index: 5.

* + - * 1. This product is Clean Air Gold certified.
      1. Material Properties:
         1. Contain no asbestos fillers, hazardous ingredients, or solvents.
         2. Color: Black.
         3. Freeze-Thaw: Exceptional.
      2. Activation of lntumescence:
         1. Expansion Begins 375 degrees F (190 degrees C).
         2. Expansion Greatest at 575 to 1100 degrees F (302 to 593 degrees C).
  1. PUTTY PADS
     1. Non-curing single component fire-rated material for penetration firestop systems. Will intumesce and expand when exposed to heat, forming an insulating char. In event of a fire, will prevent the spread of flames, smoke, gas, and water through penetration openings. Applied by hand. Mixing is never required. Rated up to 3 hours per ASTM E814, UL 1479 and ULC/ CAN4-S115-M test standards. To be used in conjunction with metallic or non-metallic electrical box outlets.
        1. HF-PP-1 Putty Pad. Size: 7 x 7 x 1/8 inches (178 x 178 x 3 mm).
        2. Testing Data: Meets the following.
           1. Listed as a fill, void or cavity material and classified as a wall opening protective material by Underwriters Laboratories, Inc.
           2. Sound Transmission Class (STC): 66. Tested per ASTM E90.
           3. Tested at a minimum 0.01 inch of water, positive pressure in accordance with, UL 1479, ASTM E814 and CAN4-S115-M.
           4. ASTM E 84, UL 723 Tunnel Test:

Flame Spread: 5

Smoke Index: 15.

* + - * 1. This product is Clean Air Gold certified.
      1. Material Properties:
         1. Does not contain asbestos fillers.
         2. Color: Red.
         3. Cure time is not applicable.
         4. Specific Gravity: 1.48 grams per cc.
         5. Activation of lntumescence: Expansion begins at 220 degrees F (104 degrees C).

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
   4. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturer's recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION