**FIRE TRAK SAMPLE SPECIFICATION**

**DIVISION 07 – THERMAL AND MOISTURE PROTECTION**

**SECTION 07 84 43 - JOINT FIRESTOPPING**

**PART 1 - GENERAL**

1.01 SUMMARY

1. Furnish and install tested and listed firestopping systems, combination of materials or devices to form an effective barrier against the spread of flame, smoke and gases and maintain the integrity of fire-resistance rated walls, partitions, floors and ceiling-floor assemblies, including through-penetrations and construction joints and gaps.

1. Through-penetrations include the annular space around pipes, tubes, conduit, wires, cables and vents.

2. Construction joints include those used to accommodate expansion, contraction, wind or seismic movement; firestopping material shall not interfere with the required movement of the joint. Gaps requiring firestopping include gaps between the curtain wall and the floor slab and between the top of the fire rated walls and the roof or floor deck above and at the intersection of shaft assemblies and adjoining fire-resistance rated assemblies.

1.02 DEFINITIONS

A. Firestopping: Material or combination of materials used to retain integrity of fire rated construction by maintaining an effective barrier against the spread of flame, smoke and hot gases through penetrations in fire rated wall and floor assemblies.

1.03 RELATED SECTIONS

 A. Section 03 30 00 - Cast-In-Place Concrete

 B. Section 04 20 00 - Unit Masonry

 C. Section 07 84 13 - Penetration Firestopping

 D. Section 07 90 00 - Joint Protection

 E. Section 08 44 00 - Curtain Wall and Glazed Assemblies

 F. Section 09 20 00 - Plaster and Gypsum Board

 G. Section 09 29 00 - Gypsum Board

1.04 REFERENCES

1. Underwriters Laboratories, Inc. (UL) - Fire Resistance Directory, Volume II,

UL Building Materials Directory; Joint Systems (XHBN), Perimeter Fire Barrier Containment Systems (XHDG), Continuity Head-of-Wall Systems (XHBO), Firestop Devices (XHJI), Forming Materials (XHKU), Through-Penetration Firestop Systems (XHEZ), and Fill, Void or Cavity Materials (XHHW)

 1. Joint Systems (XHBN)

 2. Perimeter Fire Containment Systems (XHDG)

 3. Fire-Resistance Ratings (BXRH)

 4. Fill, Voids or Cavity Material (XHHW)

 5. Forming Materials (XHKU)

B. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials

C. ASTM E 1399 - Test Method for Cyclic Movement and Measuring the Minimum and Maximum Joint Width of Architectural Joint Systems

D. ASTM E 1966 - Standard Test Method for Fire-Resistive Joint Systems

 E. ASTM E 2174 - Standard Practice for On-Site Inspection of Installed Fire Stops

F. ASTM E 2307 - Standard Test Method for Determining the Fire Endurance of Perimeter Fire Barrier Systems Using Intermediate-Scale, Multi-Story Test Apparatus

 G. ANSI/UL 2079 - Tests for Fire-Resistance of Building Joint Systems

 H. International Code Congress (ICC):

1. International Building Code (IBC)

2. International Residential Code (IRC)

 I. NFPA 101 - Life Safety Code

1.05 QUALITY ASSURANCE

A. All firestop systems shall be installed with approved methods using materials that have been tested and classified to produce an approved assembly.

B. Manufacturer Qualifications: All primary products specified in this section will be supplied by a manufacturer with a minimum of twenty-five (25) years’ experience.

C. Installer qualifications: Certified, licensed, or otherwise qualified by the firestopping manufacturer as having the necessary staff, training and a minimum of 3 years’ experience in the installation of manufacturer's products in accordance with specified requirements. Manufacturer's willingness to sell its firestopping products to the Contractor or to an installer engaged by the Contractor does not in itself confer installer qualifications on the buyer.

D. Firestop system installation shall meet requirements of ASTM E 1966 and/or ANSI/UL 2079 tested and listed assemblies that provide fire-resistance ratings not less than that of the construction in which the joint occurs.

E. Proposed firestop materials and methods shall conform to applicable governing codes having local jurisdiction.

F. For those firestop applications that exist for which no tested and listed system is available through a manufacturer, an engineering judgment derived from similar tested system designs or other tests will be submitted to local authorities having jurisdiction for their review and approval prior to installation.

1.06 SUBMITTALS

A. Shop Drawings: For each firestopping system, provide the following:

1. Listing agency's detailed drawing showing linear void and firestopping materials identified with listing agency's name and number or designation and fire rating achieved.

2. For proposed systems that do not conform strictly to the listing, submit manufacturer’s extended data judgements for the system. Judgements should include project name, location and unique identification number.

B. Submit safety data sheets provided with product delivered to jobsite.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver materials undamaged in manufacturer's clearly labeled, unopened containers identified with brand, type and UL label where applicable.

B. Coordinate delivery of materials with scheduled installation date to allow minimum storage time at jobsite.

C. Store materials under cover and protect from weather and damage in compliance with manufacturer's requirements, including temperature restrictions.

D. Comply with recommended procedures, precautions or remedies described in material safety data sheets as applicable.

E. Do not use damaged or expired materials.

1.08 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install firestopping under environmental conditions outside manufacturer's absolute limits.

B. Do not install firestop systems that require ventilation or emit VOCs.

C. Do not install firestop products that contain solvents or require solvents during clean up.

D. Provide ventilation as required by firestopping manufacturer, including mechanical ventilation if required.

PART 2 - PRODUCTS

* 1. JOINT FIRESTOPPING - GENERAL

A. Provide installed firestop products that limit the spread of fire, heat, smoke, water and sound through otherwise unprotected linear openings in rated assemblies, including head-of-wall, wall-to-wall, floor-to-floor, bottom-of-wall, perimeter joint and similar locations restoring the integrity of the fire rated construction to its original fire rating.

B. Use only components specified by the firestopping manufacturer and approved by the qualified testing agency for the designated fire-resistance rated systems.

C. Provide firestopping systems listed for linear construction joints per the specific combination of fire rated construction type, configuration, gap dimensions and fire rating and the following criteria:

1. Fire-resistance rating must be equal to or greater than that of the assembly in which it is to be installed.
2. Joint systems must be tested and listed in accordance to ASTM E 1966 to accommodate expected building movement. Systems should be approved for Class I, Class II and Class III movement requirements.
3. L-Rating: L-rating of 1 cfm per linear foot (5.5 cu m/h/m) maximum.

2.02 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with joint systems (XHBN) listed in Volume II of the UL Fire Resistance Directory; provide products of the following manufacturer as identified below:

1. Basis of Design: Fire Trak Corp., Watkins, MN; Tele: 800-394-9875;

Email: info@firetrak.com; Web: www.firetrak.com

2. Substitution requests shall be considered in accordance with contract provisions.

2.03 MATERIALS

A. Use only firestop products that have been tested in accordance with ASTM E 1966 and/or ANSI/UL 2079 for specific rated construction conditions conforming to construction assembly type, movement capability, spacing requirements and fire-resistance rating involved for each separate instance.

B. Provide a firestop system with an assembly rating as determined by ASTM E 1966 and/or ANSI/UL 2079 which is equal to the fire-resistance ratings of the construction in which the joint occurs.

PART 3 - EXECUTION

3.01 PREPARATION

A. Verification of Conditions: Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper or timely completion.

B. Verify that openings and adjacent areas are not obstructed by construction that would interfere with installation of firestopping, including ducts, piping, equipment and other suspended construction.

C. Comply with manufacturer's recommendations for temperature and humidity conditions before, during and after installation of firestopping.

D. Do not proceed until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Regulatory Requirements: Install firestop materials in accordance with UL Fire Resistance Directory.

B. Manufacturer's Instructions: Install in strict accordance with manufacturer's detailed installation instructions and procedures.

C. Notify authority having jurisdiction when firestopping installation is ready for inspection.

D. Do not cover firestopping with other construction until approval of authority having jurisdiction has been received.

3.03 FIELD QUALITY CONTROL

A. Owner shall engage an independent testing agency to inspect installed firestopping in accordance with ASTM E 2393, “Standard Practice for On Site Inspection of Installed Fire-Resistive Joint Systems and Perimeter Fire Barriers.” Keep areas of work accessible until inspection by applicable code authorities and/or independent inspection agency.

3.04 IDENTIFICATION & DOCUMENTATION

A. The firestop contractor is to supply documentation for each single application addressed. This documentation is to identify each penetration and joint location on the entire project.

B. The Documentation Form for Construction Joints is to include:

1. A Sequential Location Number
2. The Project Name
3. Date of Installation
4. Detailed Description of the Construction Joint’s Location
5. Tested System or Engineered Judgment Number
6. Type of Construction Joint
7. The Width of the Joint
8. The Lineal Footage of the Joint
9. Number of Sides Addressed
10. Hourly Rating to be Achieved
11. Installer’s Name

C. Copies of these documents are to be provided to the general contractor at the completion of the project.

3.05 ADJUSTING AND CLEANING

A. Remove equipment, materials and debris leaving area in undamaged, clean condition.

B. Clean all surfaces adjacent to joints to be free of excess firestop materials and soiling as work progresses.

END OF SECTION