PART 1 - GENERAL

1.1 Related Work

.1 Fire stopping and smoke seals within mechanical assemblies (i.e inside ducts, dampers) and electrical assemblies (i.e. inside cable trays) are specified in Division 15 and 16 respectively.

1.2 Description

.1 Work under this section, includes furnishing and installation only those through penetration fire and smoke seals for openings in floors, walls, and other elements of construction that are in accordance with ULC-S115-M95. **All penetrations made by Division 2 to 48 are to be completed under this section. All openings in firewalls/smoke stops are to be completed under this section.**

1.3 References

.1 ULC-S115-M95, Standard Method of Fire Tests of Firestop Systems.

1.4 Samples

.1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

1.5 Shop Drawings

.1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit manufacturer's product data for materials and prefabricated devices, providing descriptions are sufficient for identification at job site. Include manufacturer's printed instructions for installation.

1.6 Product Data

.1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit manufacturer's product data for materials and prefabricated devices, providing descriptions are sufficient for identification at job site. Include manufacturer's printed instructions for installation.

1.7 Quality Assurance

.1 Performance:

.1 Materials shall have been tested to provide a fire resistance rating equal to or surpassing that required by the design document.

.2 A manufacturer's direct representative (not distributor or agent) to be on-site during initial installation of firestop systems to train appropriate contractor personnel in proper selection and installation procedures. This will be done per manufacturer's written recommendations published in their literature and drawing details.

.3 For those firestop applications that exist for which no ULC or cUL tested system is available through a manufacturer, a manufacturer's engineering judgment derived from similar ULC or cUL system designs or other tests will be submitted to local authorities having jurisdiction for their review and approval prior to installation. Engineer judgment drawings must follow requirements set forth by the International Firestop Council (September 7, 1994, as may be amended from time to time).

.4 Applicator Qualifications:

.1 Two years experience installing UL or ULC classified fire stop systems or industry equivalent.

1.8 Warranty

.1 For the Work of this Section 07 84 00 - Firestopping, the 12 months warranty period prescribed in subsection GC 32.1 of General Conditions is extended to 24 months.

PART 2 - PRODUCTS

2.1 General

.1 Provide firestopping composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the firestopping under conditions of service and application, as demonstrated by the firestopping manufacturer based on testing and field experience.

.2 Provide components for each firestopping system that are needed to install fill material. Use only components specified by the firestopping manufacturer and approved by the qualified testing agency for the designated fire-resistance-rated systems.

.3 Acceptable Material:

.1 Hilti (Canada) Limited (Indicated Below).

.2 A/D Fire Protection Systems Inc.

.3 Johns Manville.
.4 3M Canada.
.5 Alternative Materials: Approved by addendum in accordance with Instructions to Tenderers.
.6 Manufacturer used shall provide a written schedule indicating specific areas products will be used, as indicated below.

2.2 Materials

.1 Fire stopping and smoke seal systems: in accordance with ULC-S115.
.1 Asbestos-free materials and systems capable of maintaining an effective barrier against flame, smoke and gases in compliance with requirements of ULC-S115 and not to exceed opening sizes for which they are intended.

.2 Provide materials classified by a qualified third party test facility tasted in a system to provide fire resistance equal to at least the rating of construction assembly being penetrated, or as dictated by the local code authority.

.2 Cast-in place firestop devices for use with non-combustible and combustible plastic pipe (closed and open piping systems) penetrating concrete floors, the following products are acceptable:
.1 "CP 680" Cast-In Place Firestop Device.

.3 Sealants or caulking materials for use with non-combustible items including steel pipe, copper pipe, rigid steel conduit and electrical metallic tubing (EMT), the following products are acceptable:
.1 2. "FS 604" Self Leveling Firestop Sealant.

.4 Sealants or caulking materials for use with sheet metal ducts, the following products are acceptable:
.1 1. "CP 601s" Elastomeric Firestop Sealant.

.5 Sealants, caulking or spray materials for use with fire-rated construction joints and other gaps, the following products are acceptable:
.1 "CP 601s" Elastomeric Firestop Sealant.

.6 Intumescent sealants or caulking materials for use with combustible items (penetrants consumed by high heat and flame) including insulated metal pipe, PVC jacketed, flexible cable or cable bundles and plastic pipe, the following products are acceptable:
.1 "FS-ONE" Intumescent Firestop Sealant.

.7 Intumescent sealants, caulking or putty materials for use with flexible cable or cable bundles, the following products are acceptable:
.1 "FS-ONE" Intumescent Firestop Sealant.

.8 Non curing, re-penetrable intumescent sealants, caulking or putty materials for use with flexible cable or cable bundles, the following products are acceptable:
.1 "CP 618" Firestop Putty Stick.

.9 Wall opening protective materials for use with U.L.C. listed metallic and specified nonmetallic outlet boxes, the following products are acceptable:

.1 "CP 617" Firestop Putty Pad.

.10 Firestop collar or wrap devices attached to assembly around combustible plastic pipe (closed and open piping systems), the following products are acceptable:
.1 "CP 642" Firestop Collar.

.11 Materials used for large size/complex penetrations made to accommodate cable trays, multiple steel and copper pipes, electrical busways in raceways, the following products are acceptable:
.1 Hilti FS 635 Trowelable Firestop Compound.

.12 Non curing, re-penetrable materials used for large size/complex penetrations made to accommodate cable trays, multiple steel and copper pipes, electrical busways in raceways, the following products are acceptable:
.1 "FS 657" FIRE BLOCK.

.13 Sealants or caulking materials used for openings between structurally separate sections of wall and floors, the following products are acceptable:
.1 "CP 601s" Elastomeric Firestop Sealant.

.14 For noncombustible pipes, tubing, ducts, optical fibre cables, electrical wires and cables, totally enclosed noncombustible raceways, electrical outlet boxes and similar building services that penetrate through a Fire Separation provide a firestop system with a "F" Rating as determined by ULC or cUL.

.15 For penetrations through a Fire Wall or through a horizontal Fire Separation between a major occupancy area, provide a firestop system with a "FT" Rating as determined by ULC or cUL which is equal to the fire resistance rating of the construction being penetrated.

.16 For joints provide a firestop system with an Assembly Rating as determined by ULC-S115, ULC-S115 or UL 2079 which is equal to the fire resistance rating of the construction being penetrated.

.17 Fire-resistance rating of installed fire stopping assembly in accordance with NBC.

.18 Primers: to manufacturer's recommendation for specific material, substrate, and end use.

.19 Water (if applicable): potable, clean and free from injurious amounts of deleterious substances.

.20 Damming and backup materials, supports and anchoring devices: to manufacturer's recommendations, and in accordance with tested assembly being installed as acceptable to authorities having jurisdiction.

.21 Sealants for vertical joints: non-sagging.

PART 3 - EXECUTION

3.1 Preparation

.1 Examine sizes and conditions of voids to be filled to establish correct thicknesses and installation of materials. Ensure that substrates and surfaces are clean, dry and frost free.

.2 Prepare surfaces in contact with fire stopping materials and smoke seals to manufacturer's instructions.

.3 Maintain insulation around pipes and ducts penetrating fire separation.

.4 Mask where necessary to avoid spillage and over coating onto adjoining surfaces; remove stains on adjacent surfaces.

3.2 Installation

.1 Install fire stopping and smoke seal material and components in accordance with ULC certification and manufacturer's instructions.

.2 Seal holes or voids made by through penetrations, poke-through termination devices, and unpenetrated openings or joints to ensure continuity and integrity of fire separation are maintained.

.3 Provide temporary forming as required and remove forming only after materials have gained sufficient strength and after initial curing.

.4 Tool or trowel exposed surfaces to a neat finish.

.5 Remove excess compound promptly as work progresses and upon completion.

3.3 Inspection

.1 Notify Departmental Representive when ready for inspection and prior to concealing or enclosing firestopping materials and service penetration assemblies.

.2 Install a warning card that is clearly visible adjacent to all large and medium openings that may be re-penetrated. This card should contain the following information:

- .1 Warning that the opening has being fire stop protected
- .2 Indicate the fire stop system used (ULC or cUL).
- .3 F rating or FT rating.
- .4 Fire stop product(s) used.
- .5 Person to contact and phone number in case of modification or new penetration of fire stop system.

3.4 Clean Up

.1 Remove excess materials and debris and clean adjacent surfaces immediately after application.

.2 Remove temporary dams after initial set of fire stopping and smoke seal materials.