

FIRESTOPPING AND SMOKE SEALS

1. GENERAL

1.1 Quality Assurance

- .1 Installers: Competent installers having minimum five (5) years experience in application of materials and systems being used, approved and trained by material or system manufacturer.
- .2 Materials and Systems: Asbestos free closures to fire and smoke at openings around penetrations, and at openings and joints within fire separations and assemblies having a fire-resistance rating, including openings and spaces at perimeter edge conditions.
 - .1 Draft tight barriers to retard passage of flame and smoke, and firefighter's hose stream and passage of liquids around outside of mechanical and electrical assemblies where they penetrate fire separations.
 - .2 Maintain fire resistance rating of adjacent floor, wall or other fire separation assembly acceptable to authorities having jurisdiction.
 - .3 Conform to both the temperature and flame ratings of CAN/ULC-S115 and, where applicable, to ASTM E814, and other requirements of authorities having jurisdiction.
- .3 Regulatory Requirements: Be responsible for securing approval from authorities having jurisdiction where project conditions require modification to tested and listed systems.

1.2 Submittals

- .1 Shop Drawings: Indicate ULC or cUL assembly number for each condition, required temperature rise and flame rating, hose stream rating, thickness, installation methods and materials of firestopping and smoke seals, damming materials, reinforcements, anchorages and fastenings, size of opening, adjacent materials and number of penetrations. Submit copies of current ULC or cUL listings for each system and certified copies of test reports verifying that firestopping and smoke seals meet or exceed specified requirements.
- .2 Engineering Judgment: Indicate Manufacturer's engineering judgment identification number and drawing details when no ULC or cUL system is available for an application. Include project name and name of installing company who will install Work.
- .3 Identification Label: Full size sample, indicate sample wording, and text and background colours.

2. PRODUCTS

2.1 Materials

- .1 General: Certified and listed by ULC or WH in accordance with CAN/ULC-S115 and bearing ULC, cUL or WH label, heat resistant, flexible, durable and compatible with adjacent materials and finishes, self supporting at penetration capable to adhere and maintain its integrity while providing effective barrier against passage of flame, smoke and gases, and provide flame and temperature rating in accordance with requirements of governing building code for openings in respective fire resistance rated floor, wall or other assemblies.

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- .1 Materials and products shall not cause stress, chemical or physical reaction, or other damage to penetrating items or adjacent materials.
- .2 Firestop Systems: Certified by ULC, WH and listed in ULC Guide No. 40 U19.
- .3 Firestop System Components: Certified by ULC, WH and listed in ULC Guide No. 40 U19.13 under the Label Service of ULC.
- .4 Cementitious Matrixes: Minimum 2758 kPa (400 psi) compressive strength when cured, to retard cable tray warping within the firestop seal.
- .5 Elastomeric Assemblies: Flexible, elastomeric seal suitable to withstand the required movement and capable of returning to original configuration without damage to seal and without adhesive or cohesive failure.
- .6 Primers: Manufacturer's standard for specific material, substrate, and end use.
- .7 Water (if applicable): Potable, clean and free from injurious amounts of deleterious substances.
- .8 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.
- .9 Pipe and Duct Insulation and Wrappings: Compatible with firestopping systems.
- .10 Intumescent Pads: Permanently pliable type.
- .11 Intumescent Composite Sheet: Composite sheet, strip or precut shapes.
- .12 Sealants and Putty For Vertical and Overhead Joints: Non-sagging.
- .13 Sealants and Fluid Seals at Floors: Self-levelling.
- .14 Identification Labels: Minimum 75 mm x 100 mm (3 inch x 4 inch) permanent self-adhering or mechanically retained corrosion resistant metal labels, with black text on yellow background.
 - .1 Indicate ULC or cUL firestopping system number, rating, products used, and contact information of installers.

3. EXECUTION

3.1 Installation

- .1 Ensure materials and products are compatible with abutting materials, coatings and finishes. Remove applied coatings and finishes as required to permit proper installation and adhesion.

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- .2 Ensure that pipe and duct insulation and wrappings occurring within openings to receive firestopping and smoke seal are installed prior to Work of this Section and that insulation and wrapping within fire seals is a ULC or cUL listed component of the system to be installed, unless ULC or cUL certified assembly permits such other insulation and wrapping to remain within the assembly. Otherwise, precede installation of mechanical insulations or remove insulation from area of insulated pipe or duct where such pipes or ducts penetrate a fire separation.
- .3 Coordinate Work of this Section with the Work of Mechanical and Electrical Divisions. Ensure the continuity and integrity of thermal and vapour barriers where such are removed, altered, or replaced, acceptable to these Divisions and the Contract Administrator.
- .4 Apply Work in accordance with Manufacturer's instructions and tested designs acceptable to authorities having jurisdiction to provide required temperature and flame rated seal, and to prevent passage of smoke and liquids.
- .5 Provide temporary forming as required and remove forming only after materials have gained sufficient strength and after initial curing. Completely fill and seal voids with firestopping and smoke seal materials. Do not cover up materials until full curing has taken place. Notify Contract Administrator when completed installations are ready for review and prior to concealing or enclosing Work.
- .6 Use intumescent pipe collars on in basement pipe penetrations.
- .7 Use elastomeric assemblies at the following locations. Do not use rigid seals:
 - .1 Openings where reinstallation occurs.
 - .2 Openings around penetrations for electrical bus ducts, pipes, ductwork and other electrical and mechanical items requiring sound and vibration control or allowance for expansion, contraction and other movement.
 - .3 Joints and spaces designed and required to allow movement such as building movement joints, deflection spaces, control joints, expansion joints, and similar locations.
- .8 Identification Labels: Locate labels in discreet and visible locations adjacent to openings and joints that have received Work of this Section. Apply labels after finish painting is completed.
 - .1 Penetrations: Apply labels on both sides of fire separations.
 - .2 Joints: Apply one label for each 6000 mm (20 feet) run of joints or fraction thereof.

3.2 Cleaning

- .1 Remove excess materials and debris and clean adjacent surfaces immediately after application. Remove temporary dams after initial set of firestopping and smoke seal materials.

END OF SECTION