

FIRESTOPPING

GENERAL INFORMATION

- 1.1 Specify a Fire-stopping System consisting of a material or combination of materials, installed to retain the integrity of fire-rated construction by maintaining an effective barrier against the spread of flame, smoke or gases through penetrations and juncture points of fire-rated walls, floors and ceilings in accordance with the Building Code of the City of New York.
- 1.2 Each assembly shall be UL listed and shall comply with:
 - a. ASTM E84 - Surface Burning Characteristics of Building Materials.
 - b. ASTM E814 - Fire Tests of Through Penetration Fire-stops.
 - c. U.L. 1479 - Fire Tests of Through-penetration Fire-stops.
 - d. U.L. - Fire Resistance Directory; Through-Penetration Fire-stop Systems (XHEZ), and Fill, Void or Cavity Materials (XHHW).
 - e. U.L. 723 - Standard Test Method for Surface Burning Characteristics of Building Materials.

DESIGN REQUIREMENTS

- 2.1 Fire-stopping shall be provided at locations including, but not limited to the following:
 - a. Penetrations for the passage of duct, cable, cable tray, conduit, piping and electrical busways and raceways through fire-rated vertical barriers (walls and partitions), horizontal barriers (floor slabs and floor/ceiling assemblies), and vertical service shafts.
 - b. Openings between floor slabs and curtain walls and fire rated walls and curtain walls.
 - c. Openings between structurally separate sections of walls or floors.
 - d. Construction Joints between the top of walls and floor or roof slab and steel deck assemblies, or, concrete floor or roof slab.
 - e. Vertical service shafts at each floor level.

DESIGN REQUIREMENTS

- f. Expansion joints in walls and floors.
 - g. Openings and penetrations in fire-rated partitions or walls containing fire doors.
 - h. Other locations shown specifically on the Drawings or after field inspection.
- 2.2 Fire-stopping materials shall be UL Classified as "Fill, Void or Cavity Material" for use in Through-Penetration Fire-stop Systems.
- 2.3 Fire-stopping Systems shall provide a fire resistance rating at least equal to the hourly resistance rating of the fire-rated barrier and resist passage of smoke and other gases.
- 2.4 Fire-stopping Systems do not re-establish the structural integrity of load bearing partitions.
- 2.5 Fire-stopping systems are not intended to support live loads or traffic.
- 2.6 Specify that the fire-stopping Systems manufacturer shall be a company with a minimum of five years experience in the manufacture of fire-stopping materials, and that the manufacturer shall provide written certification stating that its products and systems provide UL rating(s) required for the specific installation(s).
- 2.7 Specify that the installer of fire-stopping Systems shall be acceptable to the manufacturer and shall have a minimum of three years experience in the installation of fire-stopping materials.
- 2.8 Specify that fire-stopping materials shall be asbestos-free, emit no toxic or combustible fumes and be capable of maintaining an effective barrier against flame, smoke, gas, and water in compliance with requirements of this Section.
- 2.9 Specify that fire-stopping materials/systems shall be flexible to allow for normal movement of building structure and penetrating items(s) without affecting the adhesion or integrity of the system.
- 2.10 Specify that fire-stopping materials shall not require hazardous waste disposal of used containers/packages.
- 2.11 Specify that on insulated pipe, the fire-rating classification must not require the removal of the insulation.
- 2.12 Specify that fire-stopping materials shall be free of solvents, that shrinkage while curing shall not exceed shrinkage experienced during specified testing, and that fire-stopping shall remain in complete contact with adjacent construction when fully cured.

CONSTRUCTION REQUIREMENTS

- 3.1 Contractor shall install one mock-up of each type of Fire-stopping System to be used for each fire rating required and for each type of wall, floor, and ceiling for review by the Architect. Acceptable mock-up installations may remain as part of the completed work.
- 3.2 Install Fire-stopping Systems in strict accordance with the manufacturer's instructions to obtain the fire-rating required at each specific location.
- 3.3 In accordance with the requirements of the NYC Building Code, a Special Inspector retained by Columbia University will inspect the fire-stopping installation. Notify the inspection agency at least one (1) week in advance of installation.
- 3.4 When inspection indicates that fire-stopping does not comply with the required assembly, remove and replace fire-stopping to meet inspection requirements.
- 3.5 Protect adjacent surfaces and equipment from damage. Clean surfaces of opening. Remove excess materials from adjacent surfaces including form release agents from concrete, prior to installation of Fire-stopping product.
- 3.6 Do not cover up those fire-stopping installations that will become concealed behind other construction until the inspection agency or other authorities having jurisdiction have examined and approved each installation.
- 3.7 Fire-stopping should not be stored or installed when environmental conditions are not within the allowable tolerances mandated by the manufacturer, including but not limited to ambient or substrate temperature and moisture levels.

REFERENCE

- 4.1 The applicable CSI Specification Section is 07 84 00.