

Description:

The purpose of the section is to highlight the current applicable UMD Design Standards for addressing various building firestopping conditions.

Related Sections:

- TBD

Effective Date:

January 1, 2023

Applicable Standards:

The latest editions to the following publications shall apply as a minimum but not be all inclusive to the design and installation of firestopping.

- Underwriters Laboratories (UL)
 - UL Fire Resistance Directory (ULFRD)
 - Surface Burning Characteristics of Building Materials (UL 723)
 - Fire Tests of Through-Penetration Firestops (UL 1479)
- American Society for Testing and Materials Standards: ASTM E-814: Standard Test Method for Fire Tests of Through-Penetration Firestops.
- Factory Mutual Engineering and Research Corporation (FM), Approval Guide.
- National Fire Protection Association (NFPA).
 - NFPA 101 -- Life Safety Code
 - NFPA 70 -- National Electric Code
 - NFPA 1 National Fire Prevention Code
- Maryland State Fire Prevention Code (COMAR 12.03.01 and 12.03.02)
- Building Officials and Code Administrators International, Inc. (IBC)
 - International Building Code (IBC)

General Requirements:

One Sub-contractor shall be responsible for the furnishing and installation of all building firestopping. This includes, but is not limited to, the following:

- Through penetration firestopping in fire-rated construction.
- Construction gap firestopping at connections of the same or different materials in fire rated construction.
- Construction gap firestopping occurring within fire rated wall, floor or floor ceiling assemblies.
- Construction gap firestopping occurring at the top of fire rated walls.
- Through penetration smoke stopping in smoke partitions.
- Construction gap smoke stopping in smoke partitions.

Through-Penetration Firestopping of Fire-Rated Construction

- Systems or devices listed in the U.L. Fire Resistance Directory under categories XHCR and XHEZ may be used, providing that it conforms to the construction type, penetrant type, annular space requirements, and fire rating involved in each separate instance, and that the system be symmetrical for wall applications. Systems or devices must be asbestos free.
- Only systems listed in the U.L. Fire Resistance directory for the U.L. System involved are acceptable.
- All firestopping products must be from a single manufacturer.

Construction-Gap Firestopping of Fire-Rated Construction

- Firestopping at construction gaps between edges of floor slabs and exterior wall construction.
- Firestopping at construction gaps between tops of partitions and underside of structural systems.
- Firestopping at construction gaps between tops of partitions and underside of ceiling or ceiling assembly.
- Firestopping of control joints in fire rated masonry partitions.
- Firestopping expansion joints.

- Acceptable manufacturers and products: those listed in the U.L. Fire Resistance Directory for the U.L. System involved.

Smoke-Stopping at Smoke Partitions

- Through penetration smoke stopping: Any system complying with the requirements for through penetration firestopping in fire rated construction provided that the system includes the specified smoke seal or will provide a smoke seal. The length of time of the fire resistance may be disregarded.
- Construction gap smoke stopping: Any system complying with the requirements for construction gap firestopping in fire-rated construction is acceptable, provided that the system includes the specified smoke seal or will provide a smoke seal. The length of time of the fire resistance may be disregarded

Installation

- Install penetration seal materials in accordance with printed instructions of the U.L. Fire Resistance Directory and in accordance with manufacturer's instruction.
- Place firestopping in annular space around fire dampers before installation of damper's anchoring flanges which are installed in accordance with fire damper manufacturers' recommendation.
- Insulated Pipes and Ducts: Cut and remove thermal insulation where pipes or ducts pass through firestopping material. Replace thermal insulation with a material of equal thermal insulating characteristics and equal firestopping characteristics.