

FIRESTOPPING AND K-FLEX ELASTOMERIC INSULATION

Building codes require firestopping wherever piping penetrates a fire rated floor, ceiling or wall. Since most holes are drilled or cut oversized, firestopping is used to fill the gap, or “annular space” between the penetrating item and the edges of the floor, ceiling or wall.

There are four components to a firestop fire rating. There is an F rating, which demonstrates the ability to prevent the passage of flame through the opening. The T rating indicates the ability of the firestop system to limit the temperature increase on the non-fire side of the floor, ceiling or wall. The most recent components are the L or W ratings. The L or “leakage” rating is a measure of the systems ability to prevent the passage of hot and potentially toxic gasses. The W or “water” rating indicates the ability of the firestop system to prevent water from penetrating through the assembly. Firestop F and T ratings are expressed in terms of time, with ratings ranging from 15 minutes to 4 hours.

Firestopping approvals, like those listed in the Underwriters Laboratories, Inc. (ULI) Fire Resistance Directory are very specific to the floor, ceiling and wall construction, the size of the opening, the type, size and number of pipes penetrating the opening, as well as the size of the annular space and the spacing between pipes when there is more than one penetrating item. Firestop ratings are also very specific to the type and thickness of insulation used on these pipes.

K-Flex USA elastomeric insulation products are acceptable for use in over 300 firestopping designs listed in the ULI Fire Resistance Directory. In the directory, our elastomeric products are listed as “Tube Insulation – Plastics”. Products acceptable for use must be ULI listed in Category QMFZ2 of the Plastics Recognized Components Directory. Our products are listed under file number E300774. The ULI firestopping designs require the insulation composition to be “acrylonitrile butadiene rubber / polyvinyl chloride (AB/PVC)”, which is synonymous with NBR/PVC composition of our products. There are no firestop designs where PE based insulation materials are installed in the annular space.

K-Flex USA elastomeric products are listed for use in wall thicknesses up to 1-1/2” on metallic pipes (copper, iron, steel) up to 4” pipe size, and for wall thicknesses to 1” on PCV and CPVC piping and PE tubing for F ratings of up to 3 hours, T ratings to 2 hours, and L ratings to 2 hours. Pipe sizes up to 10” are listed for 1” wall thickness insulation. Some of the firestopping manufacturers with products approved for use in these designs include 3M, Hilti, Tremco, Specified Technologies, Rectorseal, and USG.

When an appropriate firestopping system is not available with elastomeric insulation, another insulation material such as fiberglass insulation can be used for a short length where the pipe passes through the opening. This allows for the selection of a firestopping design based on the selected insulation material. The use of fiberglass is not recommended on any systems where condensation is a concern.

K-Flex USA insulation products are only one component of an approved firestopping system, and do not have an hourly fire rating independent of the other components of the system. For more information on firestopping systems, consult the UL Fire Resistance Directory or the manufacturers of firestopping materials listed above.

