FIRE PROTECTION

applied fireproofing

penetration firestopping

fire joints

FIRE PROTECTION

SPRAYED FIRE-RESISTANT MATERIALS (SFRM)

PROTECTING STEEL

These products are sprayed-applied on the building's steel framing components.

- Their applied thickness is determined by the member type, the location, and the rating.
- SFRM can be exposed or concealed.
- Topcoats can be applied over SFRM but ALWAYS call the fireproofing and the paint manufacturer and coordinate to make sure that have a been tested together.
- When using or patching SFRM, ALWAYS call the manufacturer for design assist. Our basis of design products are Monokote by Grace and products by Cafco.

FIRE PROTECTION

SPRAYED FIRE-RESISTANT MATERIALS (SFRM)

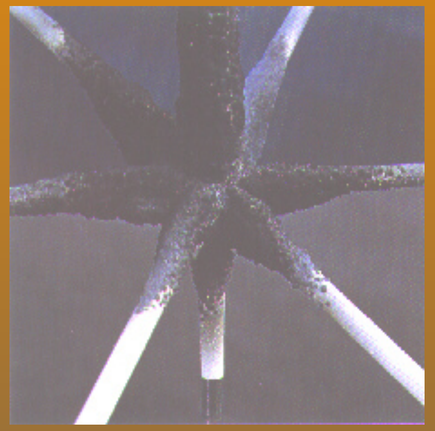
FIRE PROTECTION

INTUMESCENT FIREPROOFING

PROTECTING STEEL

Intumescent fire-resistive coatings work by swelling with the heat produced by the protecting the member over which they are applied.

- Thickness is determined by the member type, location, and rating.
- These coatings are white with an “orange peel” texture.
- Topcoats can be applied over but ALWAYS call the fireproofing and the coating manufacturers to make sure the products have been tested together.
- When using or patching, ALWAYS call the manufacturer. Our basis of design product is Albi.



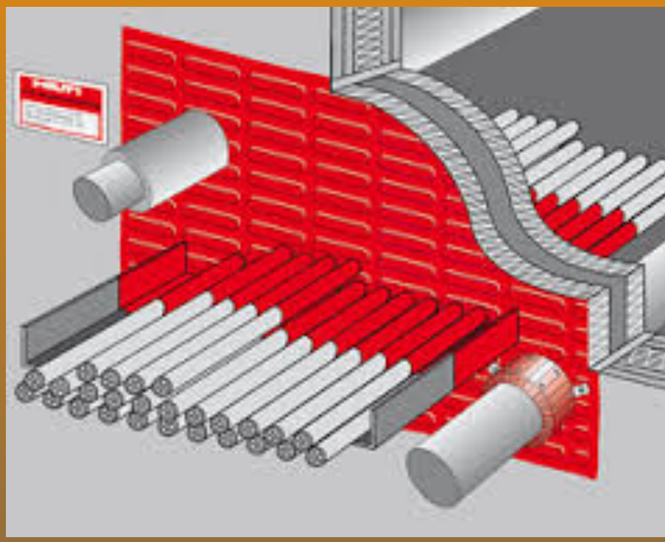
Intumescent FIREPROOFING is NOT the same as intumescent fire retardant coatings that only retard the fire but does not resist it; the two are very different products, so be careful!!!

FIRE PROTECTION

PENETRATION FIRESTOPPING

KEEPING THE INTEGRITY OF RATED ASSEMBLIES

- Rated assemblies are penetrated by a number of components: mechanical, electrical, structural, etc.
- As the penetration point a space is formed between the assembly and the penetrating object. This is called the ANNULAR SPACE. The annular space has to be sealed so that the heat and flames do not go through the rated assembly; this is called firestopping.
- Rated assemblies to be protected include both vertical and horizontal building components.
- The penetration can be through both sides of the rated assembly or only through one side.



FIRE PROTECTION

PENETRATION FIRESTOPPING

The type of **FIRE-PENETRATION** assembly required depends on the rating, the rated assembly, and the size and type of the penetrating item.

FIRE PROTECTION

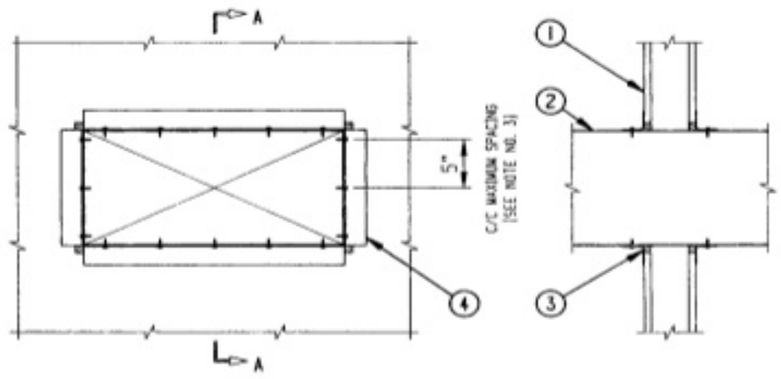
PENETRATION FIRESTOPPING

U.L. SYSTEM NO. WL7003

METAL DUCT (WITHOUT DAMPER) THROUGH 1-HR. GYPSUM WALL

F RATING = 1-HR.
T RATING = 0-HR.

WL7003E 07/96



1. GYPSUM WALL ASSEMBLY (1-HR. FIRE-RATING).
2. MINIMUM 24 GAGE RECTANGULAR STEEL DUCT (MAXIMUM SIZE : 24" x 12").
   (NOTE : NOT FOR USE IN DUCT SYSTEMS CONTAINING A DAMPER).
3. MINIMUM 5/8" DEPTH HILTI FS 601 ELASTOMERIC FIRESTOP SEALANT IN ANNULAR SPACE.
4. SEE NOTE NO. 3 BELOW.

NOTES : 1. MAXIMUM AREA OF OPENING = 325 SQUARE INCHES WITH A MAXIMUM DIMENSION OF 25 INCHES.
2. ANNULAR SPACE = MINIMUM 1/4", MAXIMUM 3/4".
3. AFTER SEALING SPACE BETWEEN DUCT AND GYPSUM WALL WITH HILTI FS 601 ELASTOMERIC FIRESTOP SEALANT, FASTEN STEEL ANGLE (L2 x 2 x 1/8") TO DUCT WITH NO. 8 (OR LARGER) STEEL SHEET METAL SCREWS. ANGLE DOES NOT HAVE TO BE FASTENED TO THE WALL.

INSTALLATION INSTRUCTIONS FOR UL **NO. WL7003**

STEP 1 - PREPARATION: All surfaces must be clean, sound, dry and frost free prior to application of firestopping materials.

STEP2 - FIRESTOP SEALANT: Apply the Firestop sealant to the depth shown on both surfaces of the wall. Leave completed seal undisturbed for 48 hours.

STEP 3 - STEEL RETAINING ANGLE: Leave seal undisturbed for 48 hours before attaching angle. Fasten recommended steel angle to all four sides of the air duct on both sides of the wall with the appropriate fasteners and recommended spacing. Angle does not have to be attached to the wall.

HILTI

1-800-879-8000

FIRE PROTECTION

FIRE JOINTS

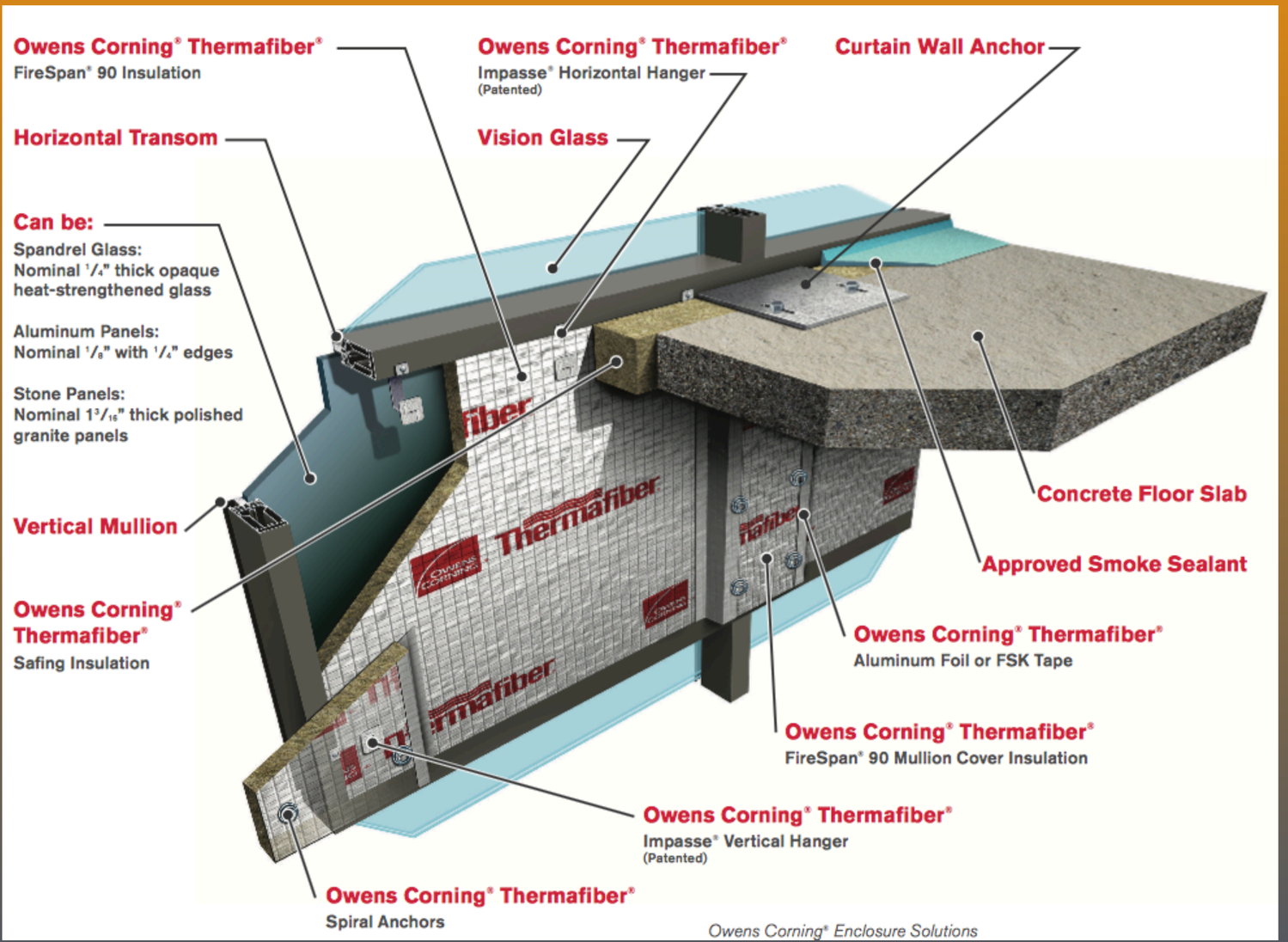
PROTECTING JOINTS BETWEEN ASSEMBLIES

Fire Joints protect joints within or between fire rated assemblies by delaying the spreading of the fire.

- In the type of projects we design, some of the most common fire resistive joint systems are the ones installed:
  - In the space between the head of a rated partition and the underdeck above,
  - Between the edge of slab and the building envelope,
  - In the joints between fire rated tilt-up panels.
- Fire joints, like penetration firestopping, must be installed exactly as tested, using the same products in the same way.
- Deviations can be approved by the manufacturer’s fire engineer; these are called “engineering judgement” and have to be signed and sealed by the approver.

FIRE PROTECTION

FIRE JOINTS



ALWAYS CALL THE MANUFACTURER when a new fire joint type comes up in a project.
Call Tremco o Hilti.

for more information go to Archtoolbox

FIRE PROTECTION

INTUMESCENT FIREPROOFING

DONE!