

# ACTIFOAM

## INNOVATIVE TECHNOLOGY

### The Functionality of the Actifoam® Technology



- 1) At the exposed side some expansion of the foam first occurs, and a crust forms under the effect of the fire. This crust encloses the foam and at the same time acts as a shield against the effect of the fire.

This is the protective fire barrier.

- 2) The foam behind the crust and under the steel casing gradually loses its original structure and changes into a fine granular substance consisting of carbon held together by the softened polymer. In this way a second fire barrier is formed while some thermal insulation is maintained.

This is the thermal fire barrier.

- 3) The layer of foam behind is thermally protected, and only those cells coming into contact with high temperatures will burst open. The remaining foam continues to provide insulation on the basis of its closed cell structure. As a result the process of change in the foam structure will steadily diminish. This is the retardant barrier.

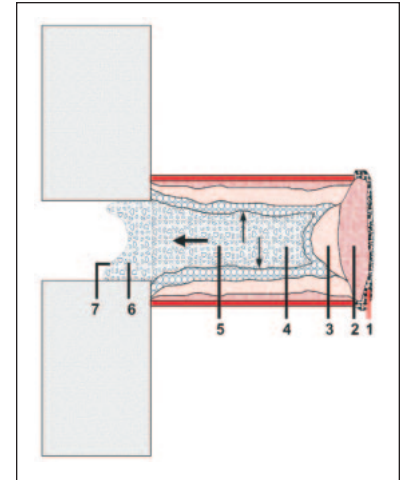
Depending on the length of time it is exposed to fire, this barrier will move further and further into the penetration.

- 4) The temperature is now such that no more structural change takes place, and the air in the closed cells can expand without the cells bursting. This results in volume expansion of the foam, and in this way all the openings in the penetration are closed off while at the same time the protective granular substance is compressed.

This is the sealant barrier.

- 5) Because the foam is confined in the casing, due to the volume enlargement of the closed cells the foam will expand towards the non-exposed side. In effect this means that the length of the penetration is extended and therefore the foam rubber mass is given long-term protection against the continuing effects of fire and heat.

- 6) The foam is held tightly in the casing. Because of the pressure exerted by the foam mass expanding inside the casing, only some foam applied in the front part of the opening will be forced out of the casing. As a result, the foam emerging from the penetration will swell to a larger size than when it was inside the penetration and provide renewed sealant protection.



*Actifoam® expands on the basis of confined air and for that reason it is classified as non-intumescent.*



*These pictures show the firestopping quality of the Actifoam® rubber. Even with the firestop placed at the exposed side, a two hour fire exposure is possible.*

*Deformation of the steel casing, deformation of the cable tray support, red hot metal parts and cable conductors, Actifoam® can take it all. This is a worse case fire test.*

*Successfully tested at Underwriters Laboratories for an F- and T- rating of two hours for units to be placed at the fireside or at the non-fire side.*

- 7) The surface temperature will remain low and easily comply with the maximum temperature increase of 180°C as required in the standards. Furthermore, the original cell structure is maintained. Therefore the foam remains mechanically intact as well. ACTIFOAM® expands on the basis of confined air and for that reason it is classed as non-intumescent

Deformation of the steel casing, deformation of the cable tray support, red hot metal parts and cable conductors, ACTIFOAM® can take it all. This is a worse case fire test.

Successfully tested at Underwriters Laboratories for an F- and T-rating of two hours for units to be placed at the fire side or at the non-fire side.

A three hour rating is valid for installations where the firestop is installed at the upper side of a floor.

**Visit our web site with link to  
Underwriters Laboratories to view and print our  
listing C-AJ-4069 at [www.dorncsd.com](http://www.dorncsd.com)**



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Fill, void, or cavity materials classified by Underwriters Laboratories, Inc. for use in through penetration Firestop System number C-AJ-4069. See the UL building materials directory.

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