

ASFP ADVISORY NOTE 22:

ASFP position on compatibility between pipes and acoustic or firestopping Seals

ASFP advice on compatibility between pipes and acoustic or firestopping seals

A group of industry bodies have come together to produce a new guidance document to address fire-stopping of service penetrations in buildings. In the course of this work and with the increased use of cPVC pipes, especially in sprinklers, we realised that attention needs to be paid during the design, specification, and installation of the products to ensure that all components perform as required.

Consequently, this group agreed that an Advisory Note should be issued to highlight a number of issues and provide recommendations.

Issue 1 - The practice of installing short metal pipes to be connected later in the construction programme

A situation can arise when installing short metal pipes through penetration sealing systems such as collars, wraps and mastics (fire stopping). Connecting the short pipes using soldering techniques, runs the risk of activating the fire stopping. Some intumescent materials become active at temperatures as low as 150°C. Premature activation of the firestopping can render the passive fire protection system ineffective in the event of a subsequent fire. This will result in firestopping having to be replaced, with subsequent cost and programme implications.

Recommendation

Where possible, use jointing systems that do not require welding / soldering hot works.

If this is not possible, then ensure that where hot works are being carried out in proximity to fire stopping systems, that adequate insulation is provided to protect the fire stopping.

Issue 2 - Installing sound and firestopping products with cPVC pipes

It is possible that when two systems come into contact, they can have an antagonistic effect on one another. This can happen with many interactions between building system components. One area where this can occur involves migration from a sealant into the plastic pipe or vice versa. Certain plasticisers, common in sealants, can migrate into certain types of plastic pipes causing the pipe to weaken and eventually fracture under pressure, leading to an escape of water, resulting in flood damage and failure of the pipe system. This phenomenon can be particularly severe where cPVC pipes are used in contact with sealants either providing a firestop, a thermal, or acoustic seal. However, it can occur when any material containing plasticisers is in contact with cPVC sprinkler pipes. This could include adhesives, cables, or materials within collar / sleeve devices that are placed around cPVC

sprinkler pipes. It should be noted that service penetration seals involving cPVC sprinkler pipes should still be tested for fire resistance according to BS EN 1366-3.

ASFP members have worked with cPVC manufacturers to produce a number of compatible products. This is not a passive fire protection issue, this is a compatibility and installation issue. ASFP members cannot be responsible for the performance of the cPVC pipe in this regard, indeed the cPVC pipe sprinkler installer shall be responsible for design and specification of compliant sealants and should provide the relevant information to the penetration sealing system installer to ensure that compatible materials are used for sealing around cPVC sprinkler pipes.

Recommendation

Where two or more systems will come into direct contact, ensure that the system owners have been informed and that written evidence is supplied from the manufacturer of the pipe system, confirming the compatibility and long-term suitability of the system.

The lists of compatible products are held by the pipe manufacturers alone and are subject to change that ASFP members are unable to control. The product listings are regularly reviewed by the sprinkler pipe manufacturers, and historical lists are not made available. As a consequence, sprinkler installers may need to consider using other pipe materials, such as steel.

Associations involved

The group of industry bodies listed below produced a new guidance document in 2020 to address service penetrations in buildings. This collaboration is aimed at producing guidance that draws on the experience from many of those in the construction industry from those who work on partitioning to the passive fire sector. During the course of this work, we became aware of the need for the above guidance. Guidance Issued by ASFP, BESA, BSRIA, FIS, GPDA.

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