TGN-013
Service Support Guidance

Introduction

Technical guidance notes serve to validate and elaborate on the proven fire stop systems offered by FSi Limited. These notes offer valuable advice to specifiers, designers, and installers, focusing on specific applications, configurations, and aspects relating to fire stopping systems and materials. The document provides guidance on practical and effective recommendations, aiding in the selection criteria for firestopping products and systems for a project. Furthermore, this insightful advice is instrumental for building owners and individuals responsible for the maintenance and installation of fire stopping systems.

This technical guidance note addresses the considerations that must be considered with respect to Service Supports within Penetration seals.

FSi Promat Guidance

Service supports play a critical role in maintaining the integrity of firestop seals. They ensure that building services (such as pipes and cables) are adequately supported on both sides of a compartment wall or floor, preventing undue stress on the firestop seal. Without proper support, these services can shift under load or during a fire, potentially dislodging the firestopping material and compromising the seal's performance. In a fire scenario, it's essential that the firestop system remains intact. Unsupported or poorly supported services can fail prematurely, undermining compartmentation and increasing fire spread risk if not directly tested to indicate the performance of unsupported services.

When considering service supports, there are 2 main aspects which must be considered. Firstly, the material which is being used and the location of said supports.

1. Material Selection

The fire resistance of service supports depends heavily on the material used. According to BS EN 1366-3:2021, Section H.4.2.2, the recommended material is steel, specifically grade S235JR (1.0038) in accordance with EN 10025-2.

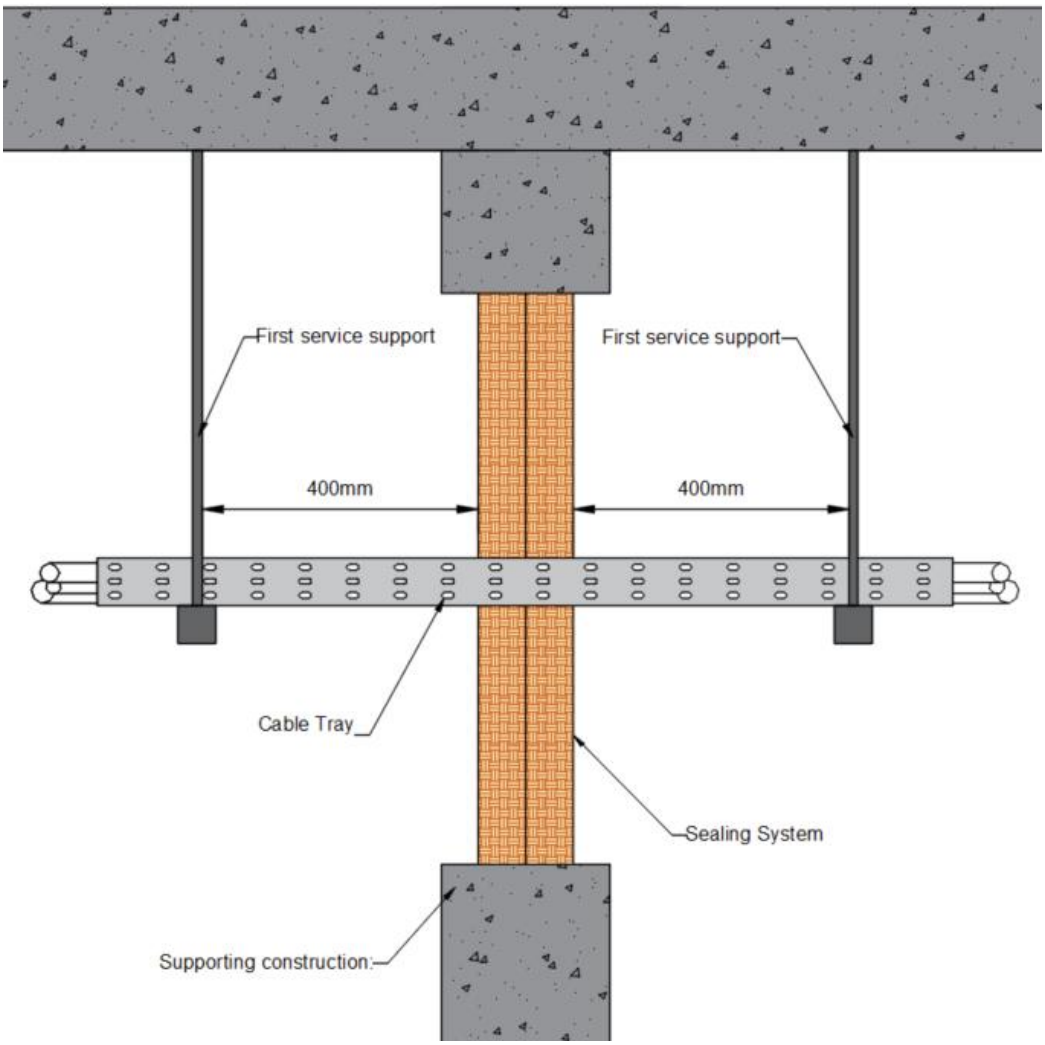
- Steel Angles: Should comply with EN 10056-1.
- Steel Channels: Must conform to EN 10162 (cold-rolled) or EN 10279 (hot-rolled).
    - Steel channels can be hung from Steel threaded rods.

These stipulations are made to ensure that the services remain in place for the duration of the fire resistance period required by the seal ensuring no premature failures. If this guidance with respect to material selection is not followed, and you select prohibited materials such as plastic cable ties, which have not been tested for fire resistance, you run the risk of a failure during a fire which runs the risk of compromising the integrity of the seal.

2. Placement of Supports

Correct positioning of the first service support is equally important. If supports are installed too far from the firestop seal, the service can exert excessive force on the seal during a fire, increasing the risk of failure. To mitigate this, supports must be positioned as tested and approved—typically as outlined in the manufacturer's fire test reports, 3rd party certification documents and standard details in accordance with **EN 1366-3:2021, Section 13.5**.

Although 400mm is a typical maximum distance for the first service support this may vary and so it is important to check for each application. **Please note the service support distance is taken from the face of the seal not the substrate.**



Additional Considerations

The point of contact between the service support and the service itself is another key factor. For example, if a pipe is insulated with combustible material and the support is fixed around the insulation, the insulation may burn away in a fire, leaving the pipe unsupported. To prevent this:

- Fix supports directly to the pipe where possible.
- If combustible insulation is present, ensure the support makes contact via a non-combustible block or interface, maintaining structural integrity throughout the fire resistance period.

Conclusion

To ensure the reliability of fire stopping systems.

- Always use non-combustible, compliant materials, such as Steel as outlined within this document —to construct service supports.
- Position supports correctly in line with test data and standards to prevent load transfer onto the firestop seal. Ensuring they remain for the required fire resistance period required by the compartment line.
- Consider how the support is fixed to the service, especially in the presence of combustible insulation.

Following this guidance will help maintain compartmentation and safeguard the performance of your firestopping systems in real fire conditions.