Nullifire

SERVICE MOVEMENT SOLUTION

FZ400 AND FB750 FRAME CONSTRUCTION

TREMCO
Construction Products Group

RELIABLE FIRE STOPPING IS ESSENTIAL FOR EVERY BUILDING

Tremco CPG UK passive fire protection solutions offers a unique combination of products and services.

Nullifire fire stopping products provide specifiers, developers, builders, contractors and installers with a complete solution to all fire stopping requirements at all stages of the construction progamme.

INTRODUCTION

Tremco CPG UK has created an industry first. Specifiers, designers, facilities managers, contractors and installers can now access both support and products covering intumescent coatings and fire stopping from one source.

We are specialists, with one focus that has not and will not change – to protect people and buildings from fire. Passive fire protection is highly complex but crucially important, especially as buildings become more sophisticated. We understand the need to have confidence in fire protection so, we provide integrated systems that perform when they are called upon.

Alongside our market leading Nullifire intumescent coatings for the protection of steel structures, Nullifire fire stopping products, provide outstanding passive fire protection solutions to service penetrations, movement joints and linear gaps along with unique interfacing solutions.

With a knowledgeable team of technical experts, everything is focused on providing what our customers need at every stage of their project – smart protection.

Images are for illustration purposes only.

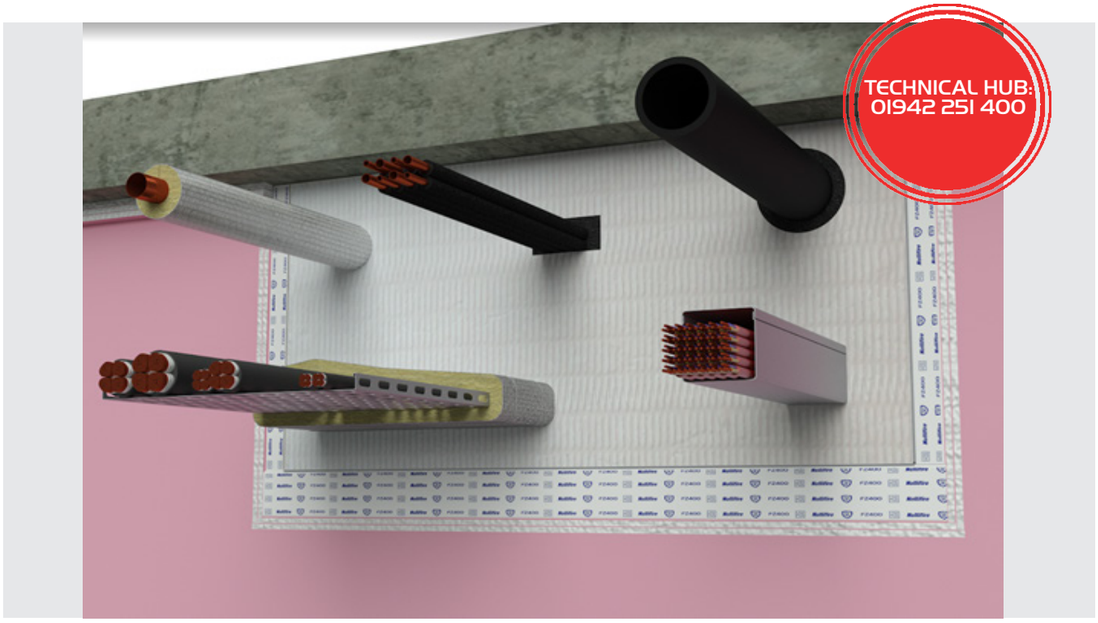
GUIDANCE PRIOR TO APPLICATION

Preparation:
Prior to the construction and installation of a "FZ400 and FB750 movement capable fire seal" the aperture size in the separating element should be measured accurately. This ensures that the supporting framework will fit the aperture correctly, allowing for an anticipated amount of deflection (identified by building designer / engineer) and provide the suitable fitment area for the FZ400 product.

APPLICATION GUIDANCE

Supporting frame construction method.
Surfaces must be free from dust and debris before installation, Suitable for seal sizes up to 1300 x1300mm or 1.69m2 overall.

1) Measure and cut 8 pieces of 50x50x2mm galvanized steel angle using a suitable device.
The movement requirement must be known in order to form the height of the frame elements required for the FZ400 movement solution. This frame, when constructed, should maintain a minimum 50mm distance from the left and right edges of the aperture The bottom edge must allow for the movement requirement in both directions.



Define required frame size:

Aperture width of 1300mm – 95mm = 1205mm width of frame. (The -95 mm never changes and permits 2x55x50 FZ400 or 1 x FZ400 100x 50mm to be applied to the vertical edges under dry fit compression.)

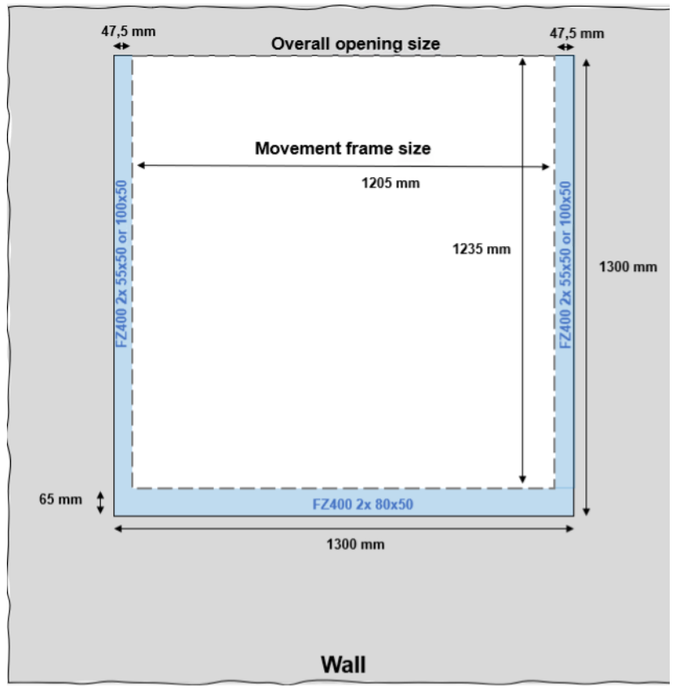
Aperture height mm – this measurement is entirely dependent on the project specific movement requirement. (e.g. aperture height of 1300mm minus the advised total movement plus 5mm). So, Movement = 30mm +/- eg: a 30mm increase and 30mm decrease in size in possible from the set position.

E.g If the potential overall movement advised = 60mm

The frame height is now required to be a minimum 65mm shorter than the opening. A 65mm gap is required to the lower edge of the frame: install the 80x50 to each side of the frame on the lower edge. So the frame height is 1300mm–65mm = 1235mm.

Create frame 1205mm wide x 1235mm high using method below. (At this point, leave frame in two halves for installation purposes or install head and then a U-shaped frame)

Note the above method of calculation will allow for accurate frame size dimensions. Accuracy is essential to enable the required movement.



Ensure correct frame width.

The image to the right shows dry insertion of angle to ensure minimum distance is being observed before fixing. The gap from the frame to the vertical edges should be 47-52mm (Measure twice cut once).

2) Place pre-cut galvanised L angles back-to-back (lengths with lengths, widths with widths) to form T sections.

3) Horizontal and vertical pieces need to be joined together. Drill M6-M8 holes at each corner interface. These holes will be used as the fixing points for the final frame, so it is important that the holes drilled in each angle length and width align well. Interface nuts and bolts can be added in the next step. Dry fitting can be used to ensure accurate drilling. Angle backs should align well to form a continuous frame.

4) Secure the L angles together using M6 or M8 15mm roofing nuts and bolts to form a complete frame. Angles should be secured back-to-back forming “T” pieces. Vertical “T” pieces should always be fitted to the outer face of the horizontal T pieces. (This enables the head piece to be secured to the soffit first)

5) The frame should be constructed around the services, starting at the soffit.

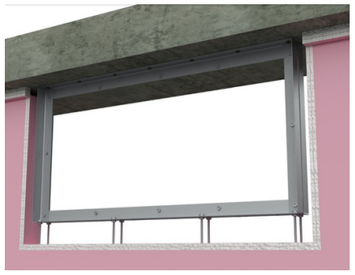
6) Mount the Steel Frame

A: Secure the head track to the soffit on a bed of FS702 and use suitable fixings for the substrate through pre drilled openings in the slotted steel angle.

B: Secure vertical angle to horizontal head piece using M6 or M8-15mm roofing bolts to corners. These fixing should be used at 300mm centres to each side of the angled frame. A minimum of 2 per fixings are required to each side of the frame.

C: Secure lower angle to both vertical angles using M6 or M8-15mm roofing nuts and bolts.

Install Guidance Rods



1) Drill 3 holes: bottom left, bottom right and bottom centre, through the lower horizontal section of the steel angle frame and down into the substrate below (approx. 100mm into substrate). These holes should be large enough to accommodate M6 threaded rod, which will act as guidance rods during seal movement, ensuring the frame never deflects away from the partition.

To allow free movement of the frame the threaded rods (guiding rods) should not be a tight fit to the holes in the substrate beneath the frame. These holes may require opening out depending on the size of the drill bit used.

2) Locate M6 threaded rods within each of these drilled holes with a sufficient amount of the rod extending into the substrate below to accommodate the deflection.

Secure the rods to the steel frame above using M6 nuts and washer. This provides guidance and stability of the frame to move up and down. (DO NOT secure or interrupt the movement of the guidance rods through the substrate below. The hole most be of sufficient depth to accommodate the movement.)

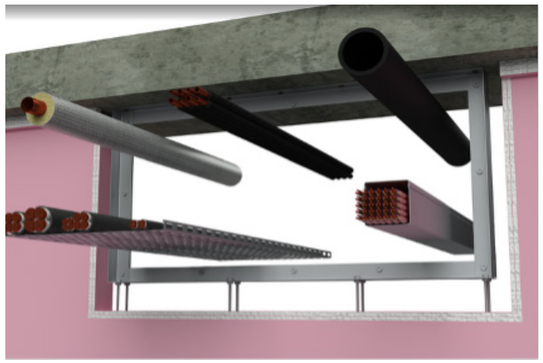
FB750 Intubatt installation.

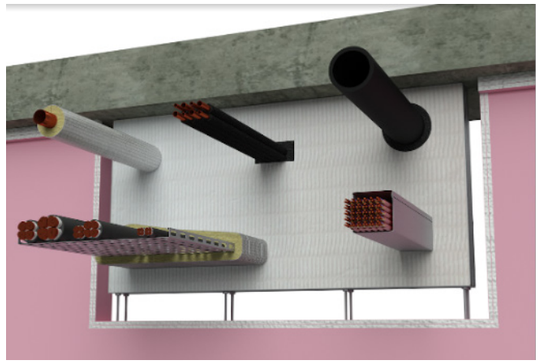
Install Nullifire FB750 Intubatt batt as normal, but into the frame. Use a generous bead of FS702 sealant onto all of the angle faces (dry fit FB750 is not permitted). Pigtail screws should be used to fix vertical elements of the frame to the FB750 batt within. Available slots within the frame should be used and a minimum of 4 pigtails screws (50mm) should be used per batt, 2 per vertical edge.

The Movement system is suitable for use in plasterboard walls ≥100mm: rigid walls ≥100mm or partitions ≥100mm

All tested double FB750 solutions will be accepted within the framed area to their classification. Classification may be limited by substrate and the maximum classification is EI120.

Once the FB750 seal is complete, and uses only the available pre-drilled opening in vertical edges of frame, additionally secure batt to frame using 50mm (max) pig tail screws into FB750.





Install the required FZ400 into movement gap.

FZ400 is installed under dry fit compression only. If the sealed bags are cut the open ends should be taped shut using a suitable product (sellotape, duct tape, foil tape, e.g. illbruck ME315).

FZ400 butt joints should be under a minimum 10mm compression to each side of all joints.

FZ400 to guide rods must be under a minimum 10mm compression.

Install FZ400 to the horizontal opening.

Install FZ400 to lower element of movement seal, always maintaining the required dimensions and compression to interruptions or joints.

FZ400 is now required to be a minimum 65mm: Select the next size up.

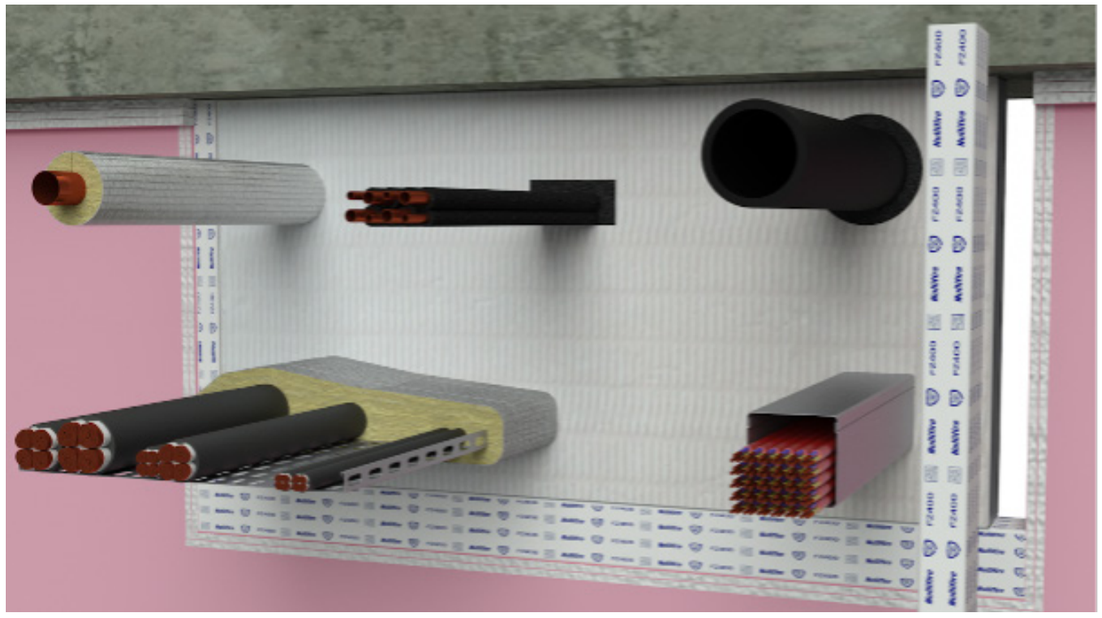
(Available sizes: 55 x 50mm, 80 x 50mm, 100 x 50mm)

(This is based on the 60mm Movement requirement).

A 65mm gap has been created to the lower edge of the frame: install the 80 x 50mm to each side of the frame on the lower edge.

Install FZ400 to the vertical openings.

FZ400 100 x 50mm or 2 of the 55 x 50mm are required to be in the vertical space between the frame and the wall. The FZ should be put to the exact height plus 10mm (5mm to each edge) plus the movement requirement.



TESTING AND CERTIFICATION

Part of Tremco CPG UK, Nullifire Passive Fire Protection Solutions are able to assist with the selection of appropriate products, or mix of products, to meet the fire protection requirements of any building. This can be achieved by using 3rd party accredited installers in conjunction with our Technical team. On larger projects, we work with clients, contractors and specialist sub-contractors to ensure the best possible and most cost-effective solution, without ever compromising on quality or safety.

As the only manufacturer and supplier that specialises in both intumescent coatings and passive fire protection products we are uniquely placed to offer the full package to suit all project requirements. Nullifire passive fire protection products combine together to give all parties peace of mind and ensure compliance with local building codes.

Our passive fire protection products undergo initial validation assessments at our in-house facilities prior to undergoing rigorous independent third party testing with leading UKAS test houses, resulting in the following accreditations,such as:

- **BSEN 1366-3/4**
- **EN13501-2:2007**
- **ETAG 026-2**
- **CE Marking**
- **UL EU Classification**

Tremco CPG is an active participant in BSI standards, CEN European working groups and the ASFP.

Tate Modern, London

TREMCO
Construction Products Group

Tremco CPG Europe manufactures high performance building materials in order to solve the complex challenges faced by today's construction industry. It is the home for multiple European construction product brands, including illbruck, Flowcrete, Nullifire, Tremco, Vandex, Dryvit and Nudura. With over 1,400 employees across Europe, we are committed to being by your side to shape a world where buildings and structures save energy, last longer and exceed sustainability benchmarks.

From joint sealing, bonding and insulation through to passive fire protection, flooring, waterproofing and roofing solutions- the product brands housed within Tremco CPG Europe cover a wide array of different construction needs. Combined with the wealth of expertise, services and support we provide a truly unique offer- to make our customers more successful time after time.

Tremco CPG Europe is part of RPM International Inc.- one of the world's leading construction products companies for both the industrial and consumer segments.

Our Values

COLLABORATION

HONESTY & INTEGRITY

RESPECT

ENGAGEMENT

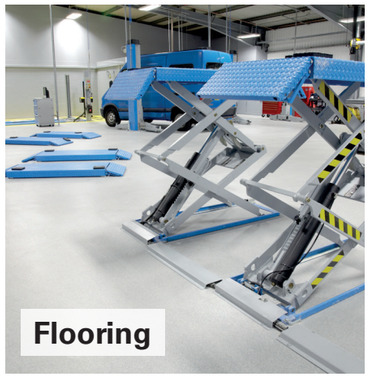
SUSTAINABLE DEVELOPMENT

Delivering World-Class Construction Product Solutions.

The product brands housed within Tremco CPG Europe cover a wide array of different construction needs and provide a wealth of complex services, support and systems that are rarely found together under one roof.

Window Insulation, Façade Construction, Exterior Insulation & EIFS, Structural & Inplant Glazing, Insulated Concrete Forms (ICFs)

Fire Stopping for Service Penetrations, Linear Joints and Ventilated Cavity Barriers



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