FIRE STOPPING
LONDON

CASE STUDY

Project: One Thames City

Client: Midgard (JRL Group)

Location: Nine Elms, Vauxhall, London

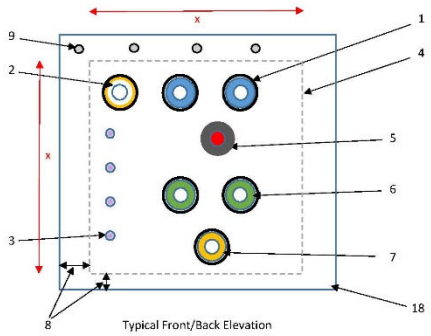
Classification: Large scale residential infrastructure

Build Type: Concrete shell and core

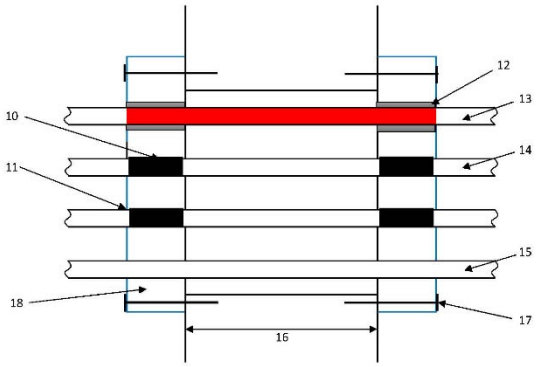
Item of works: EI60 service penetration seals above door heads (letter box seals)

Requirements:	60min Integrity and Insulation
Services:	Non-combustible pipework (lagged) & metal composite Copex's in various sizes
Problems encountered:	Due to the use of metal Copex's the difficulty to get to an Integrity & Insulation value of 60mins is increased.
Overview:	There was no Client specified Manufacturer or installation detail provided for this item of works. Therefore, following liaison with Manufacturer's, Fire Stopping London Ltd were able to offer our Client 2No details that the Manufacturers would find acceptable. The first detail being non-standard and the second detail being the tested solution.
Solutions:	Detail 1 was for the internally friction fit into the aperture a double batt and mastic seal with wraps round each lagged service. However, although most of the non-combustible services were lagged with phenolic insulation, this detail would require the Client to individually lag each of the metal Copex's so that we could then apply intumescent pipe wraps. This would add additional cost for the Client due to lagging, and additional cost for the fire stopping due to additional pipe wraps. Detail 2 was the Manufacturers tested detail for metal/non combustible services to reach both Insulation and Integrity of 60mins is a double pattress detail. This would remove the necessity to lag the Copex's therefore reducing time spent and additional costs of applying lagging, then closing down each lagged Copex with wraps. The Clients understandable concern was the overlap of the pattress install interfering with their ceiling lines. However due to recent testing carried out by the Manufacturer we were able to reduce the overlaps from 100mm to 50mm on 3 sides and 30mm on the remaining bottom edge which then created no interference with suspended ceiling framework.
Value Engineering:	Due to the provision of "detail 2" which removed the necessity to individually lag each Copex, Fire Stopping London Ltd were able to provide our Client with a cost and time saving equal to circa 11%.
Installation detail:	Double pattress batt and mastic with pipe wraps on all lagged non-combustible pipework and HPE Graphite mastic to CPVC sprinkler pipes.

Drawn installation detail:



Typical Front/Back Elevation



Typical Side Elevation

2 layers of 2mm thick, 40mm wide Fsi PipeBloc EL Pipe Wrap installed within both batts

20mm annulus, Fsi Pyropro HPE Graphite Mastic installed within both batts

80mm steel wood screws & penny washers

Materials:
Fsi 50mm Stopseal Batt
Fsi Pyrocoustic Sealant
Fsi PipeBloc EL
Fsi Pyropro HPE Graphtie Mastic

Notes:
All dimensions are in millimeters unless stated otherwise

Fsi PipeBloc EL to have 5mm Pyrocoustic Mastic over face on both exposed sides.

The materials in the drawn detail is not waterproof

Only Fsi Pyropro HPE Mastic to be used in conjunction with CPVC Services

Minimum Service Seperations:

Service to Substrate: 50mm
Service to Service: 50mm

Maximum Opening Size:

2880mm x 1440mm (4.03m^2 with services)
1200mm x 1200mm (1.44 with no services)

Item 1 25mm LTHW Heavy Gauge Steel sleevec in 20mm Phenolic
Item 2 25mm 3-Core Electric in 40mm Plastic sleeve
Item 3 32mm Metal Copex (no requirement to lag or wrap for pattress detail)
Item 4 Plasterboard opening, lined with 2 layers of plasterboard as per manufacturers detail
Item 5 40mm CPVC Sprinkler Pipe
Item 6 32mm CW Heavy Gauge Steel sleevec in 20mm Phenloic
Item 7 28mm Plastic Coated Copper Boostec Colc Water sleevec in 20mm Phenolic
Item 8 Overlap – 50mm top anc sices & cown to 30mm on bottom eage
Item 9 80mm long steel wood screws & penny washers - fixed at 300mm centres - over coated with Pyrocoustic Sealent

x Length & width as required on site but must fall within "maximum opening size" and maintain "minimum service seperations"

Item 10 Fsi PipeBloc EL Pipe Wrap
Item 11 5mm fillet Fsi Pyrocoustic Mastic over face or Pipe Wrap
Item 12 20mm Annulus full depth Fsi Pyropro HPE Graphite Mastic
Item 13 CPVC Sprinkler Pipe (40mm)
Item 14 All other non combustible lagged services as noted to the left
Item 15 32mm Metal Copex (no requirement to lag or wrap for pattress detail)
Item 16 Min Substrate Thickness of 100mm (with framed and linec openings)
Item 17 80mm steel wood screw & penny washer
Item 18 Fsi 50mm Stopseal Batt

Contract:	Midgard
Originator:	Fire Stopping London Ltd
Location	One Thames City
Title:	Typical EI60 Letter Box service penetration (pattress)

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Drawing No.:	1000-003-OTC Rev.00
Creation Date:	14/08/2020

This sketch is not to scale