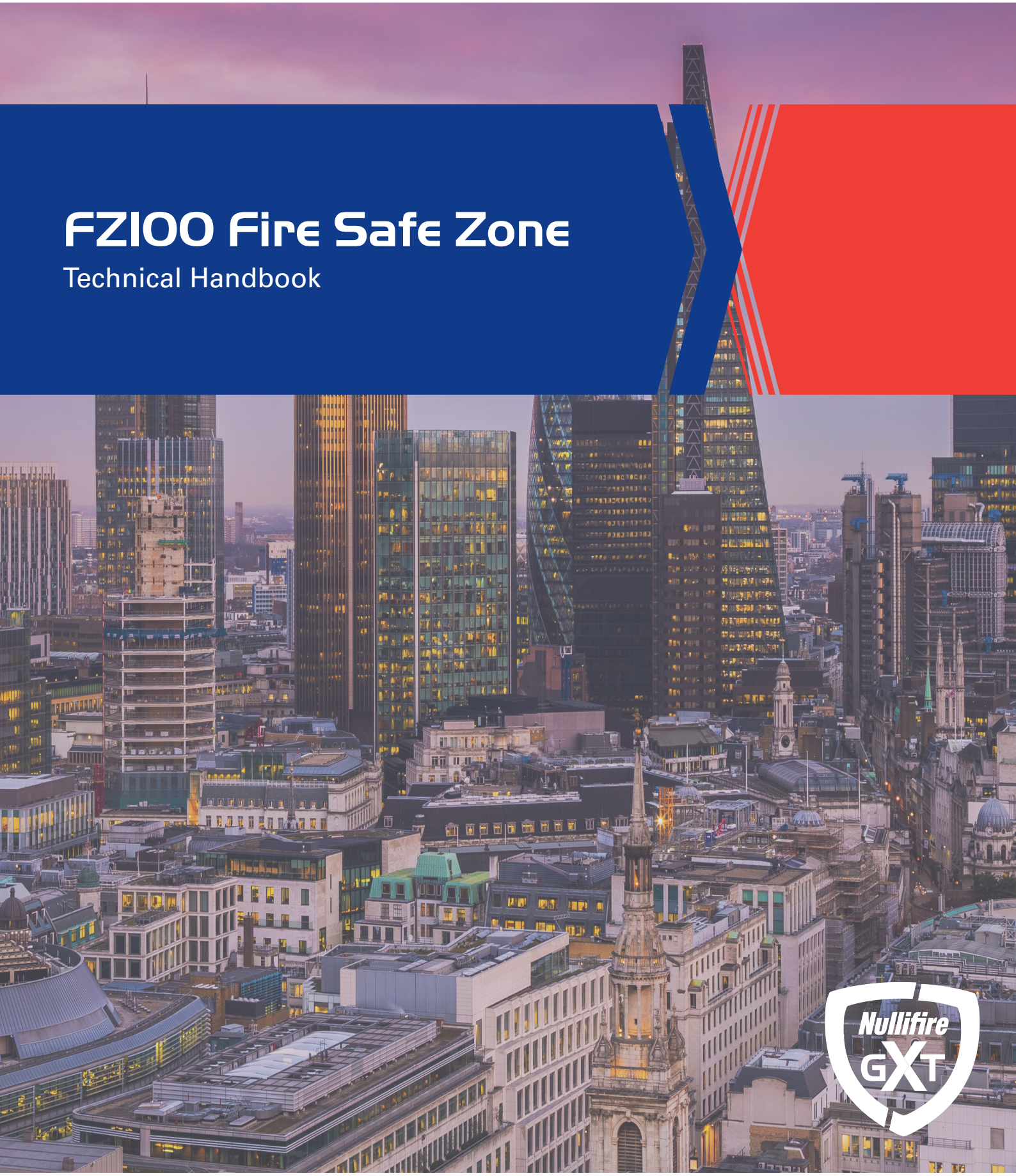
Nullifire
Smart Protection

FZ100 Fire Safe Zone

Technical Handbook



Construction Products Group Europe

Intelligent Engineered Passive Fire Protection

We are specialists, with one focus that has not and will not change – to protect people and buildings from fire. For 50 years, Nullifire has been a market leader in the Passive Fire Protection industry.

Passive fire protection is highly complex but crucially important, especially as buildings become more sophisticated. At Nullifire, we understand the need to have confidence in fire protection. So our systems perform when they are called upon.

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

Nullifire is a brand of CPG, Construction Products Group, a European manufacturer and service provider of high performance building materials.

Contents

2 Intelligent Engineered Passive Fire Protection
3 Contents & Contact
4 Introduction
6 FZ100 Fire Safet Zone - Technical Data Sheet

8 Service Requirements - **100 mm Wall**
9 Non-combustibles
11 Single Combustibles
15 Multiple Combustibles
16 Cables & Cable Carriers

18 Service Requirements - **120 mm Wall**
19 Non-combustibles
21 Single Combustibles
23 Multiple Combustibles
24 Cables & Cable Carriers
25 Electrical Services - Partial Penetrations

26 FZ100 Fire Safet Zone - Performance Data
31 Additional Notes

Assistance When Required

Our targeted approach allows you to access answers to all of your questions - quickly, simply and at any stage of the design, build and installation process.

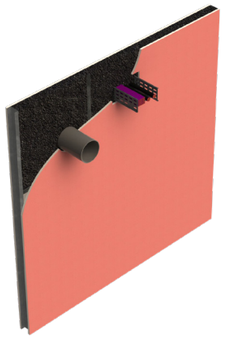
Regardless of the complexity of a project, you can turn to the team here at Nullifire. Our trained expert team support architects, specifiers, main contractors and installers in product selection, specification writing and industry best practices. Involving us at the early stages of a project can help you save money and time, as well as the assurance that the products selected are fully compatible and ideal for the job at hand.

Whilst choosing the right product is vitally important, the application is equally as critical. To optimise this process, we are able to supply the field teams data on formulations, installation specifications and technical drawings to ensure the correct application of our products. Bespoke manuals and instructions can be prepared by our technical teams for specific situations. Our extensive online and face-to-face training ensures Nullifire products are applied professionally and efficiently, whilst giving installers and contractors access to new technologies and solutions.

All of our product and technical information can be downloaded from www.nullifire.com.

Technical
Fire Stopping:
01942 929 040

FZ100 Fire Safe Zone



Fire compartment reinstatement solution for all planned & future penetrating services

Featuring our unique Graphite eXpansion Technology.

Simple and easy to install within a partition, FZ100 Fire Safe Zone offers guaranteed protection and compliance by completely closing all service openings in the event of a fire - all without the need of additional fire stopping products.

Construction Details	
Wall thickness (minimum)	Minimum 100 mm wall thickness, within FZ100 compliant apertures.
Wall construction	Flexible walls only: minimum 2 layers of 12.5 mm plasterboard installed to each side of stud.
Wall classification	EN 13501-2
Maximum aperture	Defined in the tables below as *Opening size (max.)*.
Location first service support	200 mm from the face of the partition.

Additional Details

According to GB and EU regulations there are no hazardous chemical components as outlined on our MSDS, available upon request.

Service Installation

- Mark a circular opening to the required size through wall in the desired location.
- Mark the centre point and drill though to mark the opposite side of the partition.
- Remove the plasterboard circles from each face. Do not remove the FZ100!
- Cross cut for pipes or horseshoe cut the FZ100 using a suitable cutting knife for other services.
- Push it down to permit the passing through of pipe.
- Apply FS702 or alternative Nullifire smoke seal.

Additional service requirements for each application can be found in respective tables, within this document.

Distances between services	
Cable tray	100 mm
Non-combustible pipe	50 mm
Insulated combustible pipe	50 mm
Stud	20 mm
Combustible pipe	50 mm

Cable Definitions

Cable	Cable Type	Cable Dimensions	Sheath Material
A1	Small Sheathed	5*1.5	PVC
A3	Small Sheathed	5*1.5	PE-X/ EVAC
B	Small Sheathed	1*95	PVC
C1	Medium Sheathed	4*95	PVC
C3	Medium Sheathed	4*95	PE-X/ EVAC
D1	Large Sheathed	4*185	PVC
D3	Large Sheathed	4*185	PE-X/ EVAC
E	Medium Sheathed	1*185	PVC
F	Cable Bundle (telecommunication cable, optional)	20*2*0.6	PE
G	Non Sheathed (wire optional)	1*185	PVC

*Table information taken from the standard EN1366-3.

FZ100 Fire Safe Zone - Technical Data Sheet

Product Information

Description
FZ100 Fire Safe Zone is a revolutionary fire protection system, and a single product solution tested to cover many fire stopping requirements. Nullifire has developed a ground breaking and unique fire stopping technology: GXT (Graphite eXpansion Technology).
GXT has been incorporated within FZ100, encompassing the ability of many fire protection products within a single sheet.

Usage / Purpose
- FZ100 is a fire compartment reinstatement solution for planned and future penetrating services.
- FZ100 may be located anywhere within a partition, either at the point of construction, or retrospectively fitted. This allows a designer to anticipate future fire sealing requirements, and to integrate FZ100 at strategic points within the building, where subsequent services may be located.
- FZ100 is proven for use within flexible fire compartment walls; where it is located, openings created are not required to be framed or lined. However it is required to be restrained on all edges, either by an infill of a minimum 100 kg/m³ rock fibre/mineral wool to the entire stud line or by traditional framing using steel stud directly above and below.
- FZ100 is ideally suited for use in modular application, where services may be located after the construction of the compartment.
- FZ100 is placed centrally within the wall cavity, allowing both high service movement, and an uninterrupted aesthetic appearance on all visible wall faces.
- FZ100 may be installed quickly & easily, and has zero potential waste.
- In the event of a fire, FZ100 will completely reinstate the compartment line to the values stated within the Performance tables document.

Product Dimensions
Length: 1100 mm (-0/+20)
Width: 620 mm (-5/+65)
Thickness: 50 mm (±1,5)

Packaging
Supplied individually wrapped, in pallet quantities of 15 units.

Availability
Direct from Tremco CPG UK Limited (see details on this TDS).

Usage Guidelines

Always read SDS, technical handbook, available reports and relevant application details prior to application. Ensure the latest documents are downloaded prior to every project commencement.

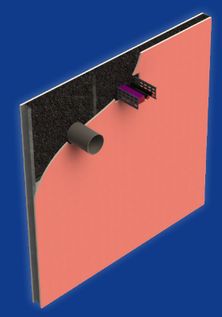
Necessary Tools
- Tape measure
- Suitable cutting equipment
- Gloves
- Drill and associated drill bits

Installation
- FZ100 is typically installed during the drywall construction phase. One side of the partition may be fully constructed prior to the application of FZ100.
- FZ100 should be compressed between two vertical studs, at the expected service locations (e.g. above door head). Services must be supported as required. Alternatively, it can be installed locally but it must be fully restrained as previously described.
- Close the partition wall with the required plasterboard system to manufacturer's tested recommendations.
- Externally identify the "Fire Safe Zone" infilled perimeter area using Nullifire FZ100 identification tape.

Requirements for services
- In the required locations, and within the FZ100 perimeter identification, mark out and identify your service requirements (ensuring to avoid stud locations), and locally remove areas of plasterboard as necessary for the service size.
- Plasterboard openings are required to be either the same dimensions as the services, or larger to all sides of the service dimensions (building conditions may require the increased opening size, e.g. building movement tolerances). Consult construction details within technical handbook for permitted tolerances.

up to 120 mins

Nullifire GXT



Key Benefits Summary
- **Unique GXT technology**
- **Fire stops existing & future service penetrations**
- **Quick and easy to install: dry, easy to cut, lightweight**
- **Fibre free ideal for clean areas**
- **Simple service installation**
- **No odour**
- **Building service movement**
- **Tested to 66dB for acoustics**
- **Fully breathable, does not absorb moisture**
- **Tested to BS EN 1366-3, up to EI120**

This product is certified to applicable European (EN) standards and UL-EU Mark service requirements.
CERT. N° UL-EU-01263-CPR

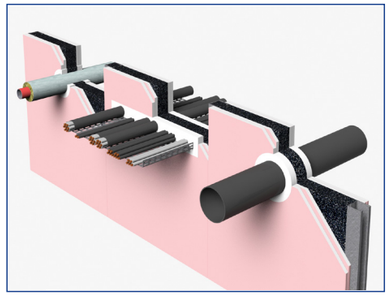
UL EU

ETA CE

ETA 20/0827

- For square or rectangular services, drill directly through the partition at the 4 corners in the required service location. Plasterboard can now be cut to each side individually without removing FZ100 infill.
- For circular services, drill a pilot hole directly through the partition at the centre of the required service location. Using a suitable core drill bit, plasterboard can now be cut to each side individually without removing FZ100 infill.
- Once FZ100 is revealed by the local removal of plasterboard, cross cut or Horseshoe cut the FZ100 using a suitable cutting knife, creating 4 slits from the centre of the opening to the corners of the opening (rectangular type aperture), or at centre point to perimeter at 90° (circular type aperture). Please Note: Cable Tray openings in FZ100, such openings should be cut in order to permit the lifted element of FZ100 to return to the cables, larger cables may require a vertical slit in the FZ100 to allow return to the tray and seal to the cable.
- Once cut, gently push back FZ100 within cavity space to reveal your required opening.
- Pass the required service through the now revelead opening.
- FZ100 will over time form its original shape around the service.
- A cold smoke seal will be required on both sides of partition; we recommend the use of Nullifire FS702 Intumastic (read FS702 TDS for limitations).

Typical Details



FZ100 Fire Safe Zone installed in 100 mm compartment flexible wall with multiple penetration.

Important Information
- A cold smoke seal must accommodate the required building movement or service product thermal expansion.

Technical information

Property	Value
Fire Resistance	Up to 120 minutes (see performance table)
Density	127 kg/m³ (±20)
Maximum Continuous Operating Temperature	+90°C
Acoustic Capability	Up to 66dB at 50 mm thickness within partition
Thermal Conductivity	0.08 W/(m.K)
Storage	Store in dry conditions between -10°C and +70°C
Shelf Life	Unlimited when stored as recommended

- FZ100 does not absorb moisture; however, it should not be installed unless dry.
- For retrofitted installation, it will be required to remove a local area of plasterboard revealing the left & right studs. Rock fibre/mineral wool insulation infill (min. 100 kg/m³) will be required to be removed to accomodate the FZ100 installation in the cavity.
- If the partition wall is uninsulated (or insulated with any other material than rock fibre/mineral wool min 100 kg/m³), a steel frame must be provided to all sides of the FZ100 product (vertical stud being considered as steel framing).
- Vertical C-channels / studs may not be removed to accomodate the FZ100 installation.
- Minimum dimension of FZ100 should be 50 mm larger to all sides than the anticipated area of the service penetration(s).
- Minimum 100 mm plasterboard separations will be required between service openings.
- Maximum dimension of FZ100 is limited only by the size of the partition.
- FZ100 may not come into contact with CVPC piping systems. For other sensitive pipework, please confirm suitability with service manufacturer prior to application.
- Services were tested with the first support at 250 mm from partition face.
- If stored below 0°C, the product must be placed in a +5°C and rising area for a minimum of 12 hours prior to application (this is to ensure the product does not contain moisture).

Health & Safety Precautions
Safety data sheet must be read and understood before use.

Technical Service
Tremco CPG UK Limited has a team of experienced Technical Sales Representatives who provide assistance in the selection and specification of products. For more information, service, advice please call Customer Services on 01942 251400.

Guarantee / Warranty
Tremco CPG UK Limited products are manufactured to rigid standards of quality. Any product which has been applied (a) in accordance with Tremco CPG UK Limited written instructions and (b) in any application recommended by Tremco CPG UK Limited, but which is proved to be defective, will be replaced free of charge. No liability can be accepted for the information provided in this leaflet although it is published in good faith and believed to be correct.
Tremco CPG UK Limited reserves the right to alter product specifications without prior notice, in line with Company policy of continuous development and improvement.
It is a requirement of the installer to ensure suitability and compatibility of all elements before installation commences and that compliance can be achieved as required.

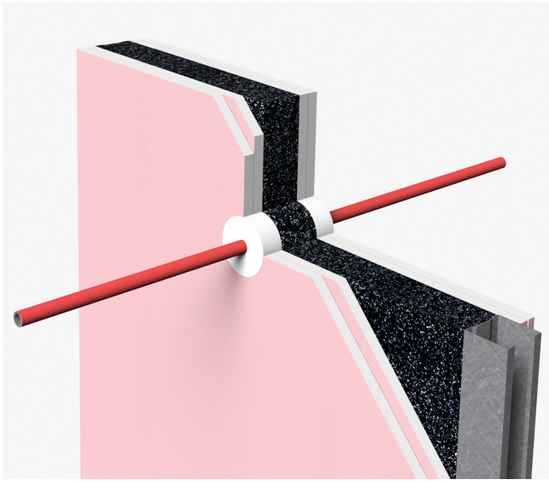
2023-04

100 mm WALL

NOTE: 100 mm Wall construction comprises of 50 mm C stud and 2x 12.5 mm fire rated plasterboard either side.

Non-combustibles

100 mm Wall



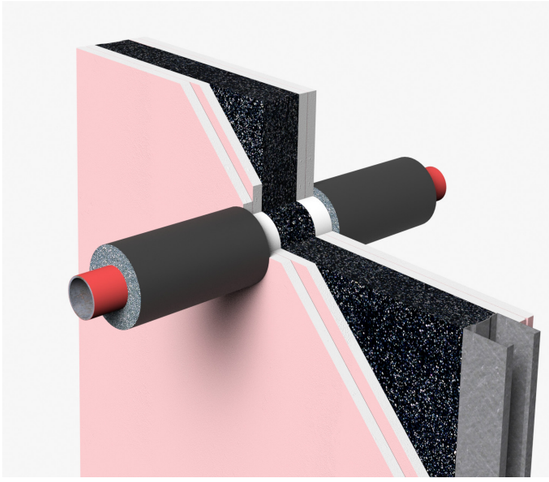
FZ100 Fire Safe Zone and and metal pipe

Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
Steel (including cast iron)	Up to Ø 22 mm x 2- 11 mm	C / U	C / U U / C C / C	Symmetrical	Ø 32 mm	90°	**E 90 I 60**
	Up to Ø 89 mm x 5- 14.2 mm	C / U	C / U U / C C / C	Symmetrical	Ø 109 mm	90°	**E 90 I 15**
Copper (including steel and cast iron)	Up to Ø 15 mm x 1- 7.5 mm	C / U	C / U U / C C / C	Symmetrical	Ø 20 mm	90°	**EI 90**
	Up to Ø 42 mm x 1- 14.2 mm	C / U	C / U U / C C / C	Symmetrical	Ø 44 mm	90°	**E 90**
	Up to Ø 160 mm x 2- 14.2 mm	C / U	C / U U / C C / C	Symmetrical	Ø 180 mm	90°	**E 90**

Non-combustibles

100 mm Wall

FZ100 Fire Safe Zone and metal pipe with stonewool insulation

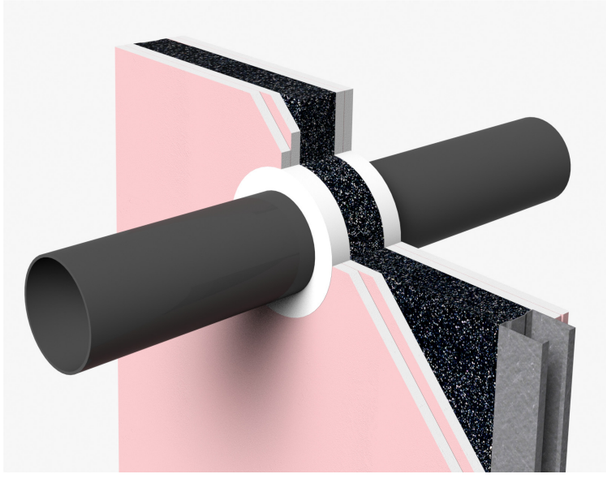


FZ100 Fire Safe Zone and metal pipe with insulation

Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
Copper (including steel and cast iron) with 20mm thick foil faced glass wool lagging	Up to Ø 42 mm x 1- 14.2 mm	C / U	C / U U / C C / C	Symmetrical	Ø 100 mm	90°	**E 90 I 60**
Copper (including steel and cast iron) with 20mm thick Kooltherm lagging	Up to Ø 42 mm x 1- 14.2 mm	C / U	C / U U / C C / C	Symmetrical	Ø 100 mm	90°	**EI 90**
Copper (including steel and cast iron) with 50mm thick Anaf-lex lagging	Up to Ø 89 mm x 2- 14.2 mm	C / U	C / U U / C C / C	Symmetrical	Ø 127 mm	90°	**E 120 I 45**
Steel (including cast iron) with 50mm thick Anaflex lagging	Up to Ø 89 mm x 2- 14.2 mm	C / U	C / U U / C C / C	Symmetrical	Ø 127 mm	90°	**E 120 I 90**

Single Combustibles

100 mm Wall

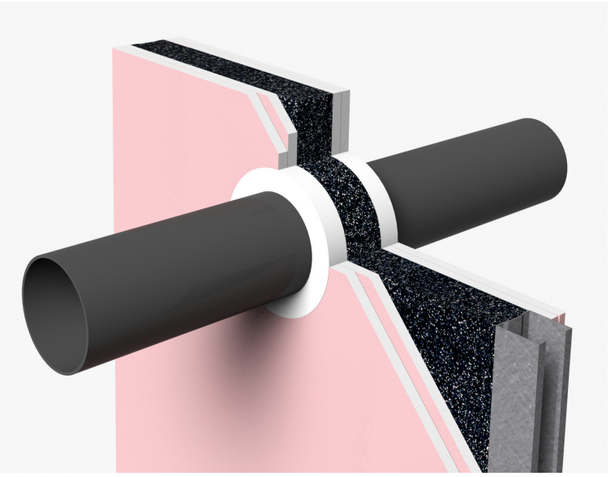


FZ100 Fire Safe Zone and combustible pipe

Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
PE (including HDPE, ABS, SAN+PVC)	Up to Ø 40 mm x 3.7 mm	U / C	U / C C / C	Symmetrical	Ø 120 mm	90°	**E 90 I 60**
	Up to Ø 90 mm x 8.2 mm	U / C	U / C C / C	Symmetrical	Ø 130 mm	90°	**EI 60**
	Up to Ø 110 mm x 4.2 mm	U / C	U / C C / C	Symmetrical	Ø 145 mm	90°	**EI 60**
	Up to Ø 110 mm x 4.2-10 mm	U / C	U / C C / C	Symmetrical	Ø 145 mm	90°	**E 60 I 45**
HDPE	Up to Ø 110 mm x 6.6- 10 mm	U / C	U / C C / C	Symmetrical	Ø 130 mm	90°	**EI 60**
	Up to Ø 125 mm x 3.7 mm	U / C	U / C C / C	Symmetrical	Ø 130 mm	90°	**EI 60**

Single Combustibles

100 mm Wall



FZ100 Fire Safe Zone and combustible pipe

Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
PVC	Up to Ø 40 mm x 3.2 mm	U / C	U / C C / C	Symmetrical	Ø 80 mm	90°	**EI 60**
	Up to Ø 110 mm x 4.2- 6.6 mm	U / U	U / U C / C U / C C / U C / C	Symmetrical	Ø 120 mm	90°	**EI 120**
	Up to Ø 125 mm x 4.8- 7.4 mm	U / C	U / C C / C	Symmetrical	Ø 130 mm	90°	**EI 60**

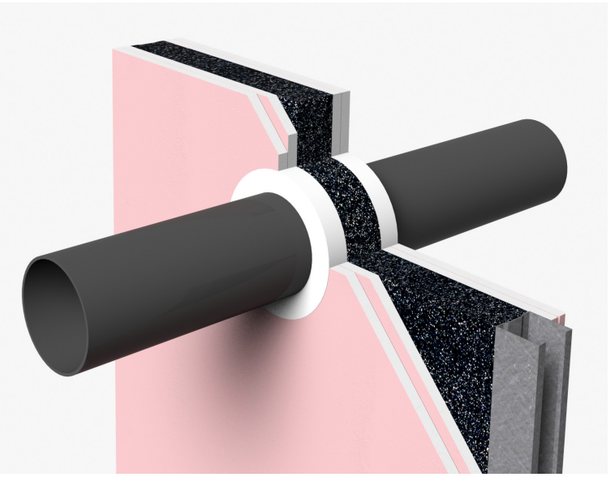
100 mm Wall

FZ100 Fire Safe Zone and combustible pipe of 110 mm at 45°

Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
PE (including HDPE, ABS, SAN+PVC)	Up to Ø 110 mm x 6.6 mm	U / C	U / C C / C	Symmetrical	Ø 120 mm	45- 90°	**E 60 I 45**

Single Combustibles

100 mm Wall

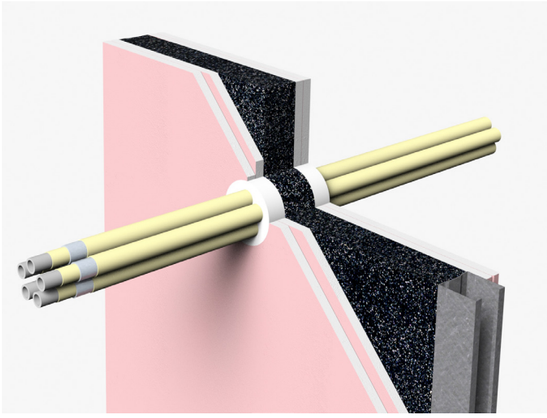


FZ100 Fire Safe Zone and combustible pipe

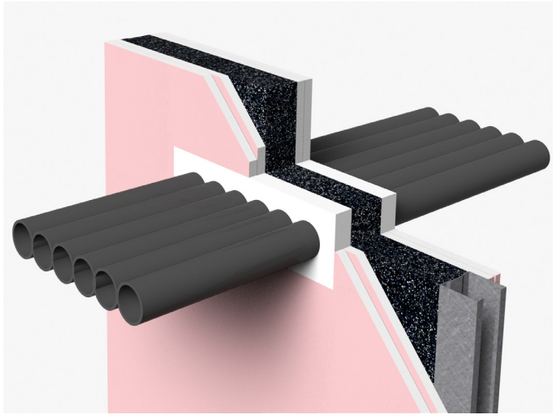
Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
ABS	Up to Ø 50 mm x 2.9 mm	U / C	U / C C / C	Symmetrical	Ø 110 mm	90°	**E 60 I 45**
	Up to Ø 110 mm x 3.4- 11.2 mm	U / C	U / C C / C	Symmetrical	Ø 130 mm	90°	**EI 60**

Multiple Combustibles

100 mm Wall



FZ100 Fire Safe Zone and bundle of PEX pipes

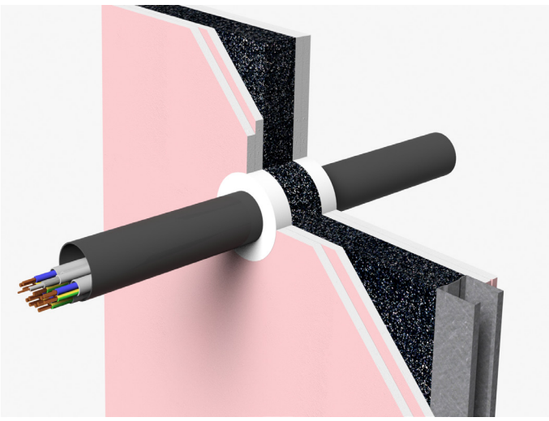


FZ100 Fire Safe Zone and row of combustible pipes

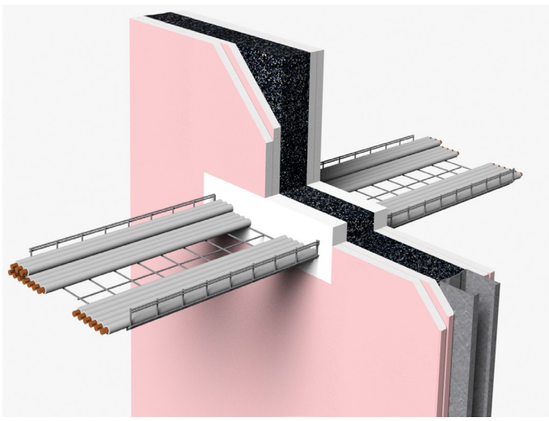
Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
4x PP	Up to Ø 41 mm x 1.9 mm	U / C	U / C C / C	Symmetrical	210 mm x 45 mm	90°	**EI 60**
3x PVC 3x ABS	Up to Ø 40 mm x 1.9 mm	U / C	U / C C / C	Symmetrical	350 mm x 55 mm	90°	**EI 60**
5x PEX	Up to Ø 22 mm x 1.5 mm	U / C	U / C C / C	Symmetrical	Ø 80 mm	90°	**EI 60**
3x PE	Up to Ø 63 mm x 3.7 mm	U / C	U / C C / C	Symmetrical	250 mm x 75 mm	90°	**EI 60**

Cables & Cable Carriers

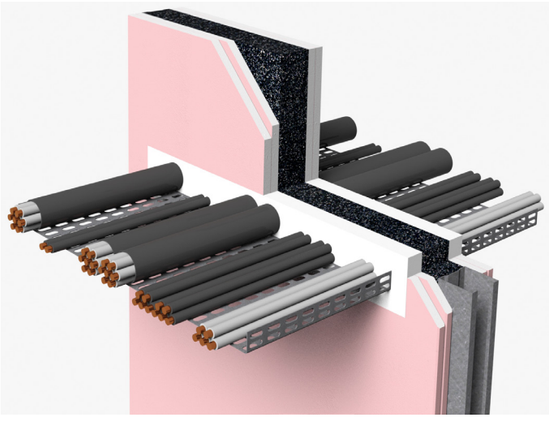
100 mm Wall



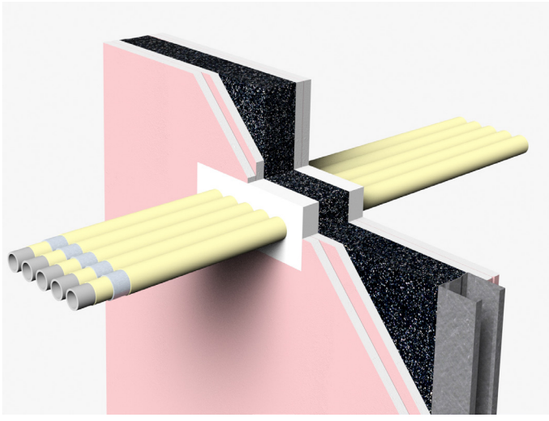
FZ100 Fire Safe Zone and combustible pipes with cables



FZ100 Fire Safe Zone and cable ladder with cables



FZ100 Fire Safe Zone and cable tray with cables



FZ100 Fire Safe Zone row of 5 28 mm PEX multilayer pipes

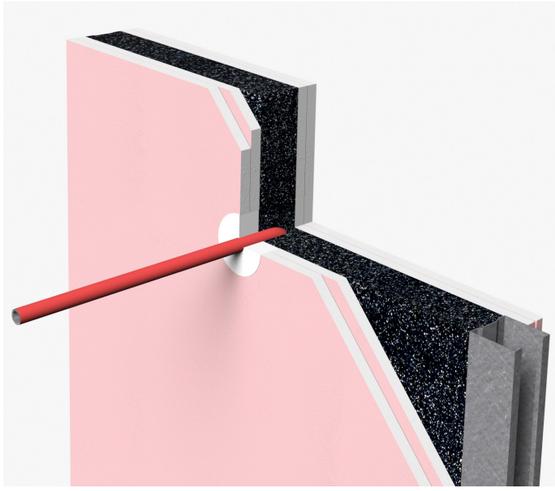
Cables	Bundle Dimensions	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
26x Twin and Earth 2.5 mm cables	100 mm	Symmetrical	Ø 120 mm	90°	**E 90 I 30**
308x Fibre optic cables	100 mm	Symmetrical	Ø 120 mm	90°	**E 90 I 30**
80x CAT 5 cables	80 mm	Symmetrical	Ø 80 mm	90°	**EI 90**
32x TV coaxial cables	80 mm	Symmetrical	Ø 80 mm	90°	**E 90 I 30**
1x HD22.4	-	Symmetrical	Ø 80 mm	90°	**EI 90**
9x Fibre optic, 1x TV coaxial on a 450 x 57 mm cable basket	10 mm	Symmetrical	480 mm x 100 mm	90°	**E 60 I 30**
5x Fibre optic, 5x TV coaxial on a 450 x 25 mm cable tray	10 mm	Symmetrical	480 mm x 100 mm	90°	**EI 60**
1x Coaxial cable, 10x fibre optics on a 450 x 25 mm cable tray	11 mm	Symmetrical	480 mm x 100 mm	90°	**E 60 I 45**
5x PEX pipes with 1x CAT 5, 1x TV coaxial, 1x fibre optic in each	Conduits Ø 28 mm x 2.6 mm	Symmetrical	Ø 40 mm	90°	**E 120 I 90**

120 mm WALL

NOTE: 120 mm Wall construction comprises of 70 mm C stud and 2x 12.5 mm fire rated plasterboard either side.

Non-combustibles

120 mm Wall

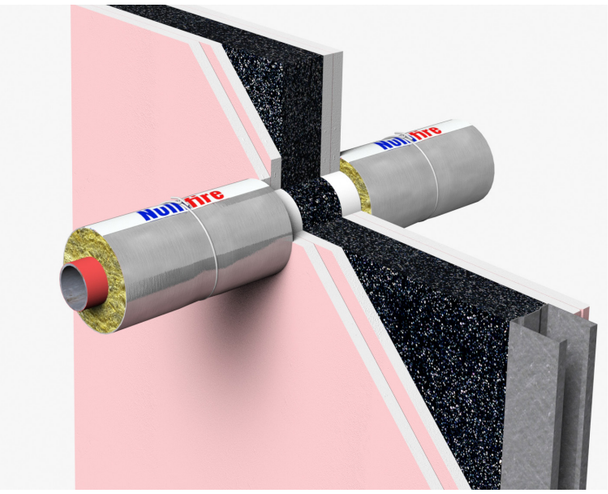


FZ100 Fire Safe Zone and metal pipe

Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
Metal: copper, steel and cast iron	Ø 15 mm x 1 - 7.5 mm	C / C	C / C	Asymmetrical	Ø 29 mm	90°	**EI 120**

Non-combustibles

120 mm Wall

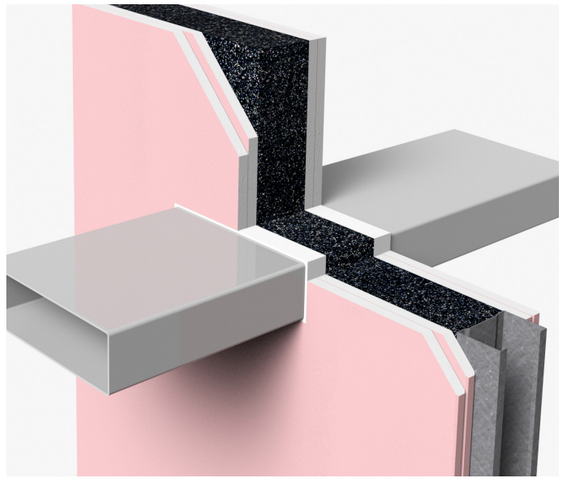


FZ100 Fire Safe Zone and metal pipe with FI025 Intuflex

Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
Metal: copper, steel and cast iron with 25 mm thick FI025 Intuflex	≤ Ø 40 mm x 1.5- 14.2 mm	C / C	C / C	Symmetrical	Ø 50 mm	90°	**E 90 I 30**
	Ø 160 mm x 2- 14.2 mm	C / C	C / C	Symmetrical	Ø 165 mm	90°	**E 90 I 30**

Single Combustibles

120 mm Wall

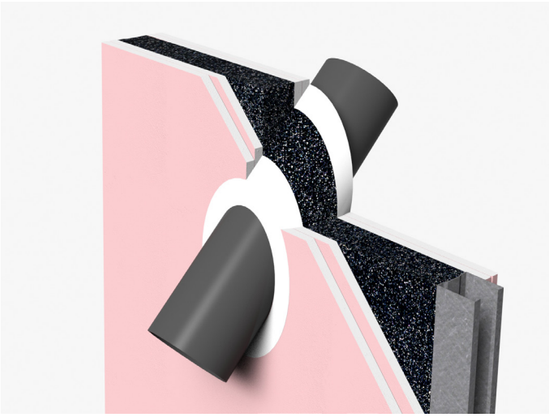


FZ100 Fire Safe Zone and rectangular PVC duct

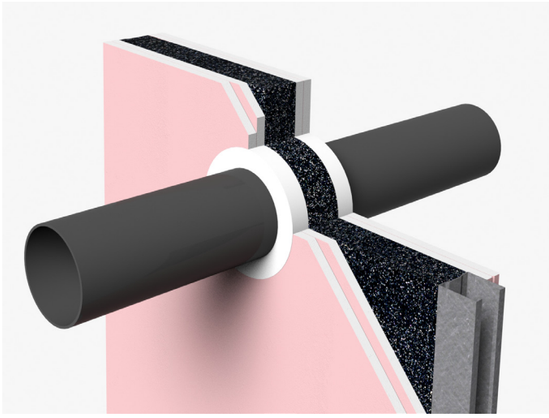
Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
PVC duct	204 mm x 60 mm	U / U	U / U U / C C / U C / C	Symmetrical	210 mm x 65 mm	90°	**EI 30**

Single Combustibles

120 mm Wall



FZ100 Fire Safe Zone and combustible pipe of 110 mm at 45°

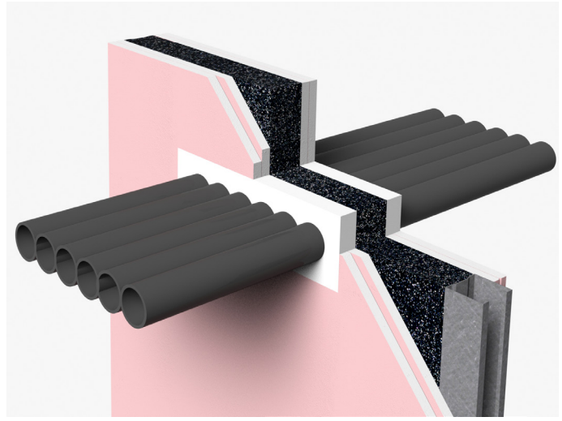


FZ100 Fire Safe Zone and combustible pipe without cables

Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
PE	Ø 40 mm x 2.3 mm	U / C	U / C C / C	Symmetrical	Ø 45 mm	90°	**EI 90**
	Ø 110 mm x 10 mm	U / C	U / C C / C	Symmetrical	Ø 120 mm	90°	**EI 90**
	Ø 63 mm x 3.2 mm	U / C	U / C C / C	Symmetrical	Ø 100 mm	45- 90°	**EI 120**
	Ø 110 mm x 3.2 mm	U / C	U / C C / C	Symmetrical	Ø 156 mm	45- 90°	**EI 120**
	Ø 110 mm x 10 mm	U / C	U / C C / C	Symmetrical	Ø 156 mm	45- 90°	**EI 120**

Multiple Combustibles

120 mm Wall

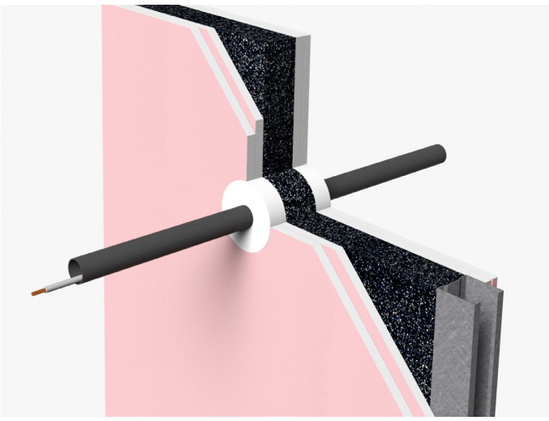


FZ100 Fire Safe Zone and row of combustible pipes without cables

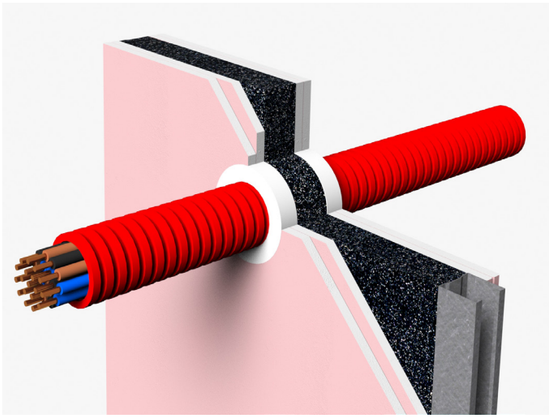
Pipe Material	Pipe Dimensions	Pipe End Configuration Tested	Pipe End Configuration Permitted	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
4x PE	Ø 40 mm x 2.3 mm	U / C	U / C C / C	Symmetrical	165 mm x 45 mm	90°	**E 120 I 90**

Cable & Cable Carriers

120 mm Wall



FZ100 Fire Safe Zone and combustible pipe with cable



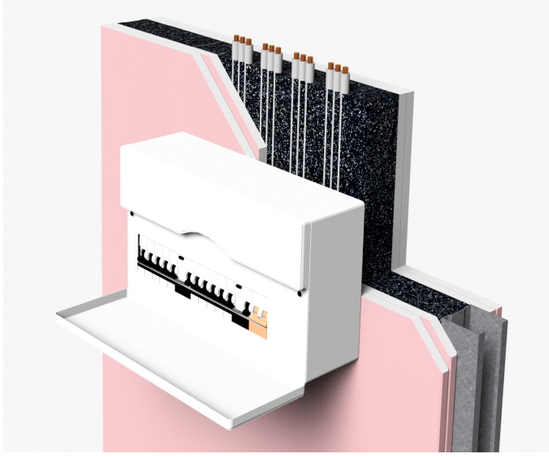
FZ100 Fire Safe Zone and flexible pipe with cables

Cables	Bundle Dimensions	Seal Type	Maximum Opening Size	Permitted angle of wall exit	EI
1x D2, 1x G1 cable on a 150 x 50 mm cable basket	-	Symmetrical	155 mm x 55 mm	90°	**EI 90**
32x 2.5 mm Twin and earth cables in ribbed PVC conduit	Conduits Ø 100 mm x 0.5- 1.5 mm	Symmetrical	Ø 110 mm	90°	**E 120 I 90**
1x 2.5 mm Twin and earth cable in ribbed PVC conduit	Conduits Ø 40 mm x 0.5- 1.5 mm	Symmetrical	Ø 50 mm	90°	**EI 120**
10x A1 cables on 150 x 50 mm cable basket with 25 mm thick FI025 Intuflex	-	Asymmetrical	155 mm x 55 mm	90°	**EI 90**

Electrical Services - Partial Penetrations

120 mm Wall

FZ100 Fire Safe Zone and gang socket box with 2 twin and earth 17 mm cables



FZ100 Fire Safe Zone and fuse box with twin and earth 17 mm cables

Services	Socket Box	Position	Maximum Opening Size	EI
Steel and plastic fuse box, British general, 12 way	389 mm x 231 mm x 115 mm depth	Side by side, 1 fitted to each face	160 mm x 90 mm	**EI 120**
PVC UK Double socket box, Appleby 2 gang	146 mm x 86 mm x 48 mm depth	Side by side, 1 fitted to each face	146 mm x 86 mm	**EI 120**
PVC UK Double socket box, RS Pro 2 gang	146 mm x 86 mm x 48 mm depth	Back to back, 1 fitted to each face	146 mm x 86 mm	**EI 90**
Timber and PVC Double socket box, 2 gang	143 mm x 83 mm x 48 mm depth	Back to back, 1 fitted to each face	143 mm x 83 mm	**EI 120**
PVC UK Double socket box, MK 2 gang	146 mm x 86 mm x 35 mm depth	Back to back, 1 fitted to each face	146 mm x 86 mm	**EI 120**
PVC UK Multimedia socket box, 3 gang	228 mm x 86 mm x 35 mm depth	Back to back, 1 fitted to each face	228 mm x 86 mm	**EI 120**

FZ100 Fire Safe Zone - Performance Data

Fire performance in accordance with EN1366-3 testing.

Cable diameters can be increased up to 25%, and cable bundle diameters can be increased up to 10%.

*Pipe penetration at 45 angle. # Partial penetration (tested from either side of partition).

120 mm Flexible Walls - COMBUSTIBLE PIPES

Material		Diameter (mm)	Wall Thickness (mm)	Additional Product	Classification	
					Integrity (E)	Insulation (I)
Nylon PVC ribbed pipe		≤ 40	0,5 to 1,5	-	120	120
Nylon PVC ribbed pipe	#	≤ 90	0,5 to 1,5	-	120	120
Nylon PVC ribbed pipe		≤ 90	0,5 to 1,5	-	90	90
1 Bundle of 5 PEX multilayer pipes		≤ 22	1.5	-	60	60
PEX multilayer pipe		≤ 28	2.6	-	120	120
1 Bank of 5 PEX multilayer pipes		≤ 28	2.6	-	120	90
HDPE pipe	*	≤ 110	10.0	-	120	120
HDPE pipe	*	≤ 110	6.6	-	60	60
HDPE pipe		≤ 125	3.7	-	60	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)	*	≤ 40	1.9	FS702 Intumastic	120	120
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 40	3.7	-	90	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)	*	≤ 63	5.0	FS702 Intumastic	120	120
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 63	3.7	-	60	60
1 Bank of 3 PE pipes (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 63	3.7	-	60	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 90	8.2	-	60	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)	*	≤ 110	16	FS702 Intumastic	120	120
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)	*	≤ 110	3.2	FS702 Intumastic	120	120
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 110	16	-	90	90
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 110	4.2	-	60	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 110	10.0	-	60	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 110	6.6	-	60	60
PVC-U pipe (+ PVC-C)		≤ 40	3.2	-	60	60
PVC-U pipe (+ PVC-C)		≤ 40	1.9	-	60	60
1 Bank of 3 PVC-U pipes (+ PVC-C)		≤ 40	1.9	-	60	60
1 Bank of 6 PVC-U pipes (+ PVC-C) & ABS pipes		≤ 40	1.9	-	60	60
PVC-U pipe (+ PVC-C)		≤ 110	4.2	-	120	120
PVC-U pipe (+ PVC-C)		≤ 110	6.6	-	120	120
PVC-U pipe (+ PVC-C)		≤ 125	4.8	-	60	60
PP pipe (+ HDPE, PVC-U & PVC-C)		≤ 41	1.9	-	60	60
1 Bank of 4 PP pipes (+ HDPE, PVC-U & PVC-C)		≤ 41	1.9	-	60	60
1 Bank of 3 ABS pipes		≤ 40	1.9	-	60	60
ABS pipe		≤ 110	3.4	-	60	60
PVC-U pipe (+ PVC-C)		≤ 125	7.4	-	60	60

Fire performance in accordance with EN1366-3 testing.

Cable diameters can be increased up to 25%, and cable bundle diameters can be increased up to 10%.

*Pipe penetration at 45 angle. # Partial penetration (tested from either side of partition).

120 mm Flexible Walls - NON-COMBUSTIBLE PIPES

Material		Diameter (mm)	Wall Thickness (mm)	Additional Product	Classification	
					Integrity (E)	Insulation (I)
Copper (+ Steel, Cast Iron)	#	≤ 14	≥ 0,7		120	120
Copper (+ Steel, Cast Iron)		≤ 15	≥ 1	-	90	90
Copper (+ Steel, Cast Iron)		≤ 40	≥ 1	FI025 Intuflex	90	30
Copper (+ Steel, Cast Iron)		≤ 42	≥ 1	-	90	0
Copper (+ Steel, Cast Iron)		≤ 160	≥ 1,2	FI025 Intuflex	90	30
Copper (+ Steel, Cast Iron)		≤ 160	≥ 2	-	90	0
Steel (+ Cast Iron)		≤ 22	≥ 2	-	90	60
Steel (+ Cast Iron)		≤ 89	≥ 5	-	90	15

120 mm Flexible Walls - INSULATED NON-COMBUSTIBLE PIPES

Material	Diameter (mm)	Wall Thickness (mm)	Insulation Material	Insulation Thickness (mm)	Insulation Location	Insulation Local Extension	Classification	
							Integrity (E)	Insulation (I)
Copper (+ Steel, Cast Iron)	≤ 42	≥ 1	PIR	20	LI (Local Interrupted)	500	90	90
Copper (+ Steel, Cast Iron)	≤ 42	≥ 1	Glass Fibre / Rock Fibre	20	CI (Continuous Interrupted)	-	90	60

120 mm Flexible Walls - SOCKET & FUSE BOXES

Material		Dimensions (mm)	Cable Type	Cable Quantity	Additional Products	Classification	
						Integrity (E)	Insulation (I)
PVC UK Double Socket Box (Appleby, 2 gang)		≤ 86 x 146 x 9 (combustible back box ≤ 35mm depth)	Twin & earth 17mm	2	-	120	120
PVC UK Double Socket Box (MK, 2 gang)		≤ 104 x 146 x 15 (combustible back box ≤ 35mm depth)	Twin & earth 17mm	2	-	120	120
Timber & PVC UK Double Socket Box (Varilight, 2 gang)		≤ 86 x 146 x 9 (combustible back box ≤ 47mm depth)	Twin & earth 17mm	2	-	120	120
PVC UK Triple Multimedia Socket Box (Lap, 3 gang)		≤ 420 x 146 x 9 (combustible back box ≤ 35mm depth)	Twin & earth 17mm	2	-	120	120
PVC UK Double Socket Box (RS Pro, 2 gang)		≤ 104 x 146 x 15 (combustible back box ≤ 35mm depth)	Twin & earth 17mm	2	-	90	90
Steel & Plastic Fuse Box (British General, 12 way)		≤ 496 x 231 x 155	Twin & earth 17mm Twin & earth 30mm G1 21mm	14 4 2	-	120	120

FZ100 Fire Safe Zone - Performance Data

Fire performance in accordance with EN1366-3 testing.

Cable diameters can be increased up to 25%, and cable bundle diameters can be increased up to 10%.

*Pipe penetration at 45 angle. # Partial penetration (tested from either side of partition).

120 mm Flexible Walls - CABLE CARRIERS & CABLES

Material		Dimensions (mm)	Cable Type	Cable Quantity	Additional Products	Classification	
						Integrity (E)	Insulation (I)
Cable Tray, Trunking, Basket		≤ 450 x 25 x 1,0	-	-	-	120	120
Cable Basket	#	≤ 200 x 25	-	-	-	120	120
Cable		-	TV coaxial 10mm	1	-	120	120
Cable		-	Ethernet Cat 5 6mm	1	-	120	120
Cable		-	Fibre optic 7mm	1	-	120	120
Cable		-	D1 80mm	1	FI025 Intuflex	90	90
Cable		-	G1 21mm	1	FI025 Intuflex	90	90
Cable		-	D2 65mm	1	-	90	90
Cables in Rigid Combustible Conduit		≤ Ø28 x 2,6	Ethernet Cat 5 6mm	1	-	120	120
Cables in Rigid Combustible Conduit		≤ Ø28 x 2,6	Ethernet Cat 5 6mm TV coaxial 10mm Fibre optic 7mm	1 1 1	-	120	120
Cables in Rigid Combustible Conduit		≤ Ø28 x 2,6	Fibre optic 7mm	1	-	120	120
Cables in Rigid Combustible Conduit		≤ Ø28 x 2,6	TV coaxial 10mm	1	-	120	120
Cables in 1 Bank of 5 Rigid Combustible Conduits		≤ Ø28 x 2,6	Ethernet Cat 5 6mm TV coaxial 10mm Fibre optic 7mm	1 1 1	-	120	90
Cables in Flexible & Rigid PVC Combustible Conduit	#	Ø63 to Ø90 x 0,5 to 1,5	Twin & earth 17mm	≤ 8	-	120	120
Cables in Flexible & Rigid PVC Combustible Conduit	#	Ø63 to Ø90 x 0,5 to 1,5	Twin & earth 17mm	≤ 32	-	90	90
Cables in Flexible & Rigid PVC Combustible Conduit	#	Ø63 to Ø90 x 0,5 to 1,5	TV coaxial 10mm	1	-	60	60
Cables in Flexible & Rigid PVC Combustible Conduit	#	Ø63 to Ø90 x 0,5 to 1,5	Twin & earth 17mm TV coaxial 10mm	≤ 5 1	-	60	60
Cables in Flexible Combustible Conduit	#	≤ Ø63 x 0,5 to 1,5	Twin & earth 17mm	≤ 8	-	120	120
Cables in Flexible Combustible Conduit	#	≤ Ø63 x 0,5 to 1,5	Twin & earth 17mm	≤ 32	-	90	90
Cables in Flexible Combustible Conduit	#	≤ Ø63 x 0,5 to 1,5	TV coaxial 10mm	1	-	60	60
Cables in Flexible Combustible Conduit	#	≤ Ø63 x 0,5 to 1,5	Twin & earth 17mm TV coaxial 10mm	≤ 5 1	-	60	60
Cable Bundle		-	Fibre optic 7mm	≤ 5	-	120	120
Cable Bundle		-	TV coaxial 10mm	≤ 5	-	120	120
Cable Bundle	#	-	A1 12mm	≤ 10	-	90	90
Cable Bundle		≤ 80	Ethernet Cat 5 6mm	≤ 80	-	90	90
Cable Bundle		-	Fibre optic 7mm	≤ 10	-	120	30
Cable Bundle		≤ 100	Twin & earth 17mm	≤ 26	-	90	30
Cable Bundle		≤ 100	Fibre optic 7mm	≤ 308	-	90	30
Cable Bundle		≤ 80	TV coaxial 10mm	≤ 32	-	90	30
Cable Bundle		-	Fibre optic 7mm TV coaxial 10mm	≤ 9 1	-	60	30

Fire performance in accordance with EN1366-3 testing.

Cable diameters can be increased up to 25%, and cable bundle diameters can be increased up to 10%.

*Pipe penetration at 45 angle. # Partial penetration (tested from either side of partition).

100 mm Flexible Walls - COMBUSTIBLE PIPES

Material		Diameter (mm)	Wall Thickness (mm)	Classification	
				Integrity (E)	Insulation (I)
1 Bundle of 5 PEX multilayer pipes		≤ 22	1.5	60	60
PEX multilayer pipe		≤ 28	2.6	120	120
1 Bank of 5 PEX multilayer pipes		≤ 28	2.6	120	90
PVC-U pipe (+ PVC-C)		≤ 40	3.2	60	60
1 Bank of 3 PVC-U pipe (+ PVC-C)		≤ 40	1.9	60	60
1 Bank of 6 PVC-U pipes (+ PVC-C) & ABS pipes		≤ 40	1.9	60	60
PVC-U pipe (+ PVC-C)		≤ 110	4.2	120	120
PVC-U pipe (+ PVC-C)		≤ 110	6.6	120	120
PVC-U pipe (+ PVC-C)		≤ 125	4.8	60	60
PVC-U pipe (+ PVC-C)		≤ 125	7.4	60	60
HDPE pipe	*	≤ 110	10.0	120	120
HDPE pipe	*	≤ 110	6.6	60	60
HDPE pipe		≤ 125	3.7	60	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 40	3.7	90	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 63	3.7	60	60
1 Bank of 3 PE pipes (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 63	3.7	60	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 90	8.2	60	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 110	10.0	60	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 110	6.6	60	60
PE pipe (+ HDPE, ABS, San+ PVC, PVC-U & PVC-C)		≤ 110	4.2	60	60
ABS pipe		≤ 40	1.9	60	60
ABS pipe		≤ 110	3.4	60	60
ABS pipe		≤ 110	11.2	60	60
PP pipe (+ HDPE, PVC-U & PVC-C)		≤ 41	1.9	60	60
1 Bank of 4 PP pipes (+ HDPE, PVC-U & PVC-C)		≤ 41	1.9	60	60

100 mm Flexible Walls - NON-COMBUSTIBLE PIPES

Material		Diameter (mm)	Wall Thickness (mm)	Classification	
				Integrity (E)	Insulation (I)
Copper pipe (+ Steel, Cast Iron)		≤ 15	≥ 1	90	90
Copper pipe (+ Steel, Cast Iron)		≤ 42	≥ 1	90	0
Copper pipe (+ Steel, Cast Iron)		≤ 160	≥ 2	90	0
Steel pipe (+ Cast Iron)		≤ 22	≥ 2	90	60
Steel pipe (+ Cast Iron)		≤ 89	≥ 5	90	15

FZ100 Fire Safe Zone - Performance Data

Fire performance in accordance with EN1366-3 testing.

Cable diameters can be increased up to 25%, and cable bundle diameters can be increased up to 10%.

*Pipe penetration at 45 angle. # Partial penetration (tested from either side of partition).

100 mm Flexible Walls - INSULATED NON-COMBUSTIBLE PIPES

Material	Diameter (mm)	Dimensions (mm)	Insulation Material	Insulation Thickness (mm)	Insulation Location	Insulation Local Extension	Classification	
							Integrity (E)	Insulation (I)
Copper pipe (+ Steel, Cast Iron)	≤ 42	≥ 1	PIR	20	LI (Local Interrupted)	500	90	90
Copper pipe (+ Steel, Cast Iron)	≤ 42	≥ 1	Glass Fibre / Rock Fibre	20	CI (Continuous Interrupted)	-	90	60

100 mm Flexible Walls - CABLE CARRIERS & CABLES

Material	Dimensions (mm)	Cable Type	Cable Quantity	Classification	
				Integrity (E)	Insulation (I)
Cable Tray, Trunking, Basket	≤ 450 x 25 x 1,0	-	-	120	120
Cables in Rigid Combustible Conduit	≤ 28 x 2,6	Ethernet Cat 5 6mm TV coaxial 10mm Fibre optic 7mm	1 1 1	120	120
Cables in Rigid Combustible Conduit	≤ ∅28 x 2,6	Ethernet Cat 5 6mm	1	120	120
Cables in Rigid Combustible Conduit	≤ ∅28 x 2,6	Fibre optic 7mm	1	120	120
Cables in Rigid Combustible Conduit	≤ ∅28 x 2,6	TV coaxial 10mm	1	120	120
Cables in 1 Bank of 5 Rigid Combustible Conduits	≤ ∅28 x 2,6	Ethernet Cat 5 6mm TV coaxial 10mm Fibre optic 7mm	1 1 1	120	90
Cable	-	TV coaxial 10mm	1	120	120
Cable	-	Ethernet Cat 5 6mm	1	120	120
Cable	-	Fibre optic 7mm	1	120	120
Cable	-	D2 65mm	1	90	90
Cable Bundle	-	Fibre optic 7mm	≤ 5	90	30
Cable Bundle	-	TV coaxial 10mm	≤ 5	90	60
Cable Bundle	≤ 80	Ethernet Cat 5 6mm	≤ 80	90	90
Cable Bundle	-	Fibre optic 7mm	≤ 10	120	30
Cable Bundle	≤ 100	Twin & earth 17mm	≤ 26	90	30
Cable Bundle	≤ 100	Fibre optic 7mm	≤ 308	90	30
Cable Bundle	≤ 80	TV coaxial 10mm	≤ 32	90	30

2023-03

Additional Notes

For more information or to download our Technical Data Sheet, scan the QR code or visit:

www.nullifire.com

Construction Products Group Europe

Tremco CPG UK Limited
Coupland Road
Hindley Green
WN2 4HT, UK

+44 (0) 1942 251400
hello@cpg-europe.com
www.cpg-europe.com

www.nullifire.com
@Nullifire
firestopping@cpg-europe.com
/company/Nullifire