

UL-EU CERTIFICATE

Certificate No.
UL-EU-00597-EN

Issue date
31-07-2014

Issue No.
2

Re-Issue date
28-08-2025

Expiry date
27-08-2035



4705

Certificate Holder:
Neutron Fire Technologies Limited

Address:
Broomfield Industrial Estate,
Broomfield Road,
Montrose
DD10 8SY

Product:
Firebreak 22

Places of production:
A/001

Standard:
EAD 350454-00-1104, September 2017 / EAD 350141-00-1106,
September 2017 / EN 13501-2

Authorised Signatory:

A handwritten signature in blue ink, appearing to read 'Chris Johnson'.

Chris Johnson
Issued by UL International (UK) Ltd

This is to certify that representative samples of the Certified Product listed above have been investigated by Underwriters Laboratories to the Standard(s) indicated on this Certificate, in accordance with the UL Global Services Agreement and the UL-EU Mark Service Terms and Conditions ("Agreement"). The Certificate Holder is entitled to use the UL-EU Mark for the Certified Product listed on the certificate and manufactured at the production site(s) listed, in accordance with the terms of the Agreement. Only those products bearing the UL-EU Mark for Europe should be considered as being covered by UL's UL-EU Mark Service. This Certificate shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.



Appendix UL-EU CERTIFICATE UL-EU-00597-EN

This certificate relates to the use of Firebreak 22 Water Based Acrylic Acoustic Sealant for fire stopping where there are joints in or between walls & floors or service penetrations through floors and walls. The detailed scope is given in pages 3 to 28 of this Certificate. This shows the thickness and acceptable dimensions, substrates and orientations required to provide fire resistance periods of up to 240 minutes for differing services and wall/floor constructions.

The product is certificated on the basis of:

- i) 0843-UKTA-240004
- ii) 0843-UKTA-240014
- iii) UK – CERTIFICATE OF CONSTANCY OF PERFORMANCE 0843 – CPR – 1354
- iv) Inspection and surveillance of factory production control by UL
- v) Fire resistance test data in accordance with EN 1366-3: 2009 and EN 1366-4: 2006
- vi) Classification in accordance with EN 13501-2
- vii) Durability and Serviceability as defined in EAD 350141-00-1106, September 2017

* Firebreak 22 sealant has been tested in accordance with BS EN ISO 8339: 2005 and BS EN ISO 9046: 2004 to demonstrate its suitability for use in internal conditions, including those with high humidity, but excluding temperatures below 0°C (“internal damp or dry conditions”). These conditions are designated Z₁ & Z₂ in EAD 350454-00-1104, September 2017 and EAD 350141-00-1106, September 2017.

The movement capability of Firebreak 22 joint seals is restricted to ≤ 7.5%



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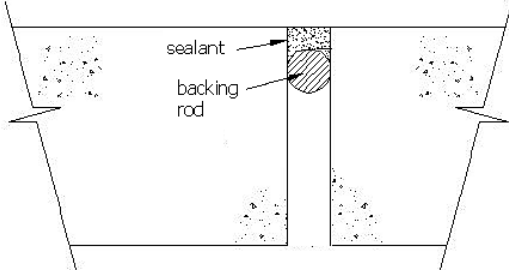
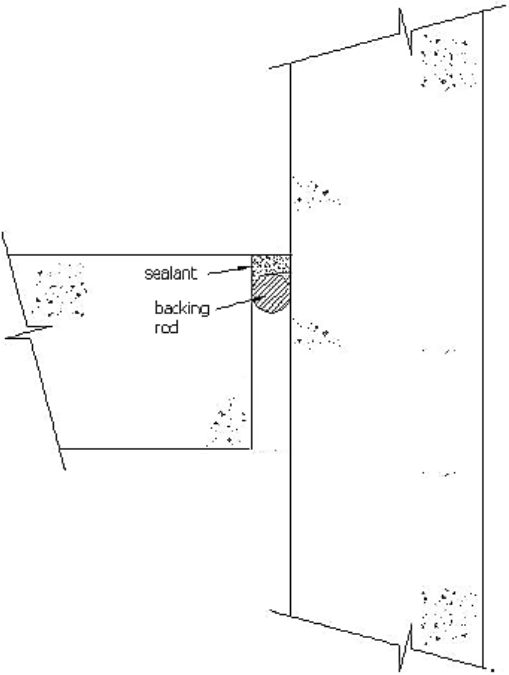
Product-type: Sealant		Intended use: Penetration Seal & Linear Joint & Gap Seal
Assessment method	Essential characteristic	Product Performance
BWR 2 Safety in case of fire		
EN 13501-1	Reaction to fire	No performance determined
EN 13501-2	Resistance to fire	See pages 4 to 27
BWR 3 Hygiene, health and environment		
Declaration of manufacturer & EN 16516	Content, emission and/or release of dangerous substances	Use categories: IA1, S/W2 Declaration of manufacturer
EN 1026:2000	Air permeability (material property)	No performance determined
EAD 350141-00-1106, Annex C & EN 12390-8	Water permeability (material property)	No performance determined
BWR 4 Safety in use		
EOTA TR 001:2003	Mechanical resistance and stability	No performance determined
EOTA TR 001:2003	Resistance to impact/movement	No performance determined
EOTA TR 001:2003 ISO 11600 & EAD 350141-00-1106, Clause 2.2.13	Adhesion	No performance determined
EAD 350454-00-1104, Clause 2.2.9	Durability	Z ₁
EAD 350141-00-1106, Clause 2.2.13	Movement capacity	No performance determined
EAD 350141-00-1106, Clause 2.2.14	Cycling of perimeter seals for curtain walls	No performance determined
EAD 350141-00-1106, Clause 2.2.15	Compression set	No performance determined
EAD 350141-00-1106, Clause 2.2.16	Linear expansion on setting	No performance determined
BWR 5 Protection against noise		
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	No performance determined
BWR 6 Energy economy and heat retention		
EN 12664, EN 12667, EN 12939, EN ISO 8990, EN ISO 6946, EN ISO 14683, EN ISO 10211, EN ISO 10456	Thermal properties	No performance determined
EN ISO 12572, EN 12086, EN ISO 10456	Water vapour permeability	No performance determined



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Linear Joint and Gap Seals

Rigid wall constructions with wall thickness of minimum 200 mm

Linear Joint Seal: Vertically oriented Firebreak 22 to exposed of the wall	
Construction details:	
	

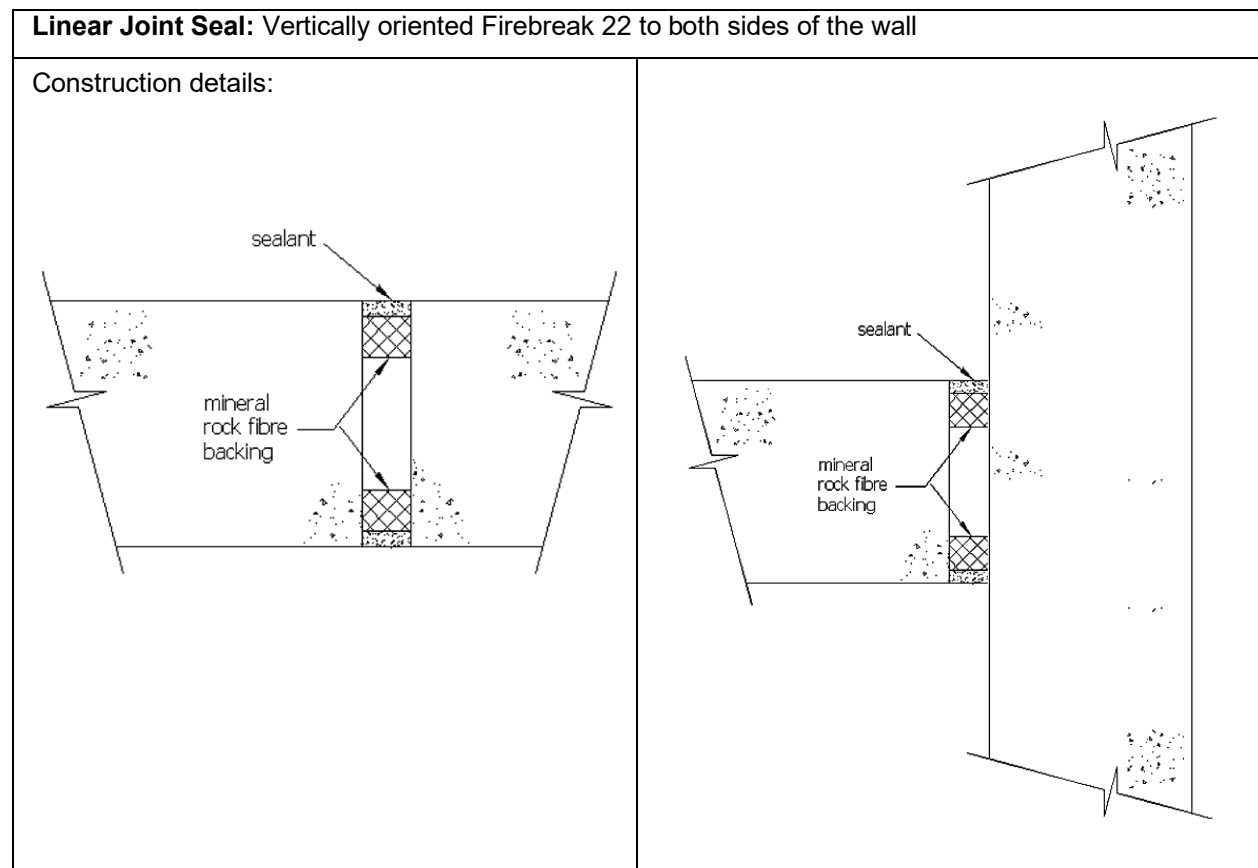
Firebreak 22 Linear Joint Seals in Rigid Walls 200 mm thick (min.) – Sealant on the Exposed/Fire Side of the Seal Only			
Substrate	Depth (mm)	Backing	Classification
Masonry/concrete	25 min.	Polyethylene rod	E 240 – V – X – F – W 30 EI 60 – V – X – F – W 30
	20 min.		E 240 – V – X – F – W 20 EI 90 – V – X – F – W 20
	10 min.		E 240 – V – X – F – W 10 EI 180 – V – X – F – W 10



Solutions

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Firebreak 22 Linear Joint Seals in Rigid Walls 200 mm thick (min.) – Sealant flush to both faces of the wall			
Substrate	Depth (mm)	Backing	Classification
Masonry/concrete	20 min.	Stone wool 20 deep / 90 kg/m ³	EI 240 – V – X – F – W 30
	10 min.	Stone wool 10 deep / 90 kg/m ³	EI 240 – V – X – F – W 10

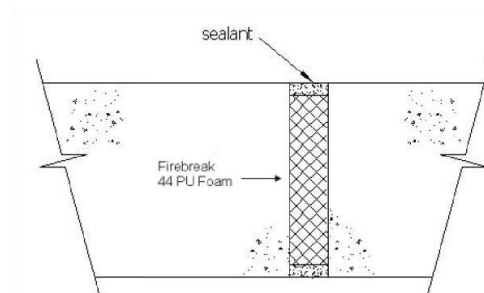
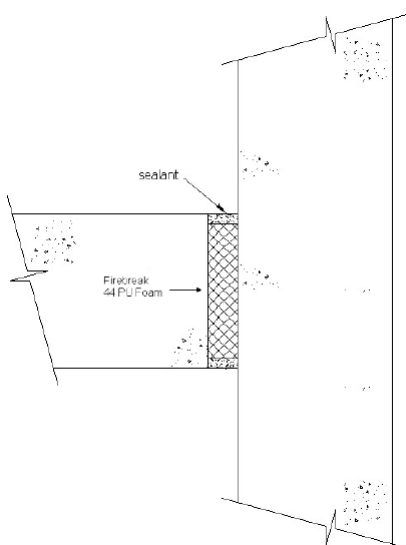
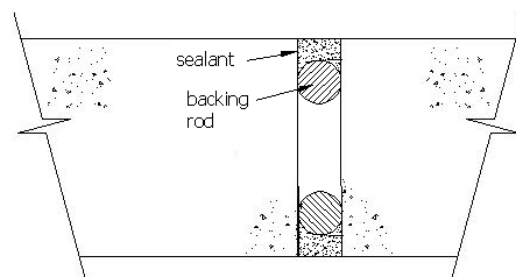
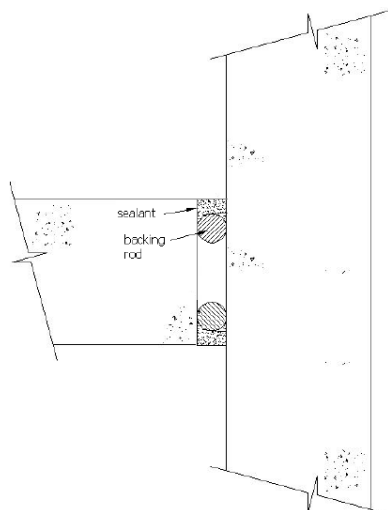
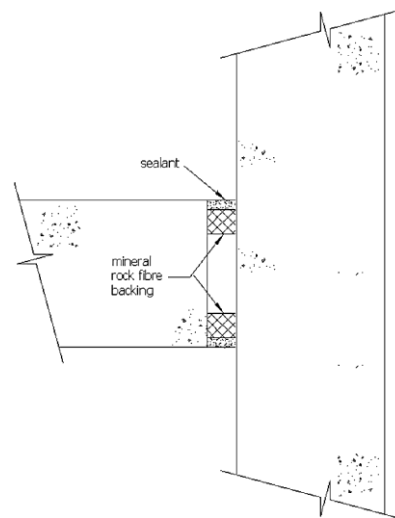
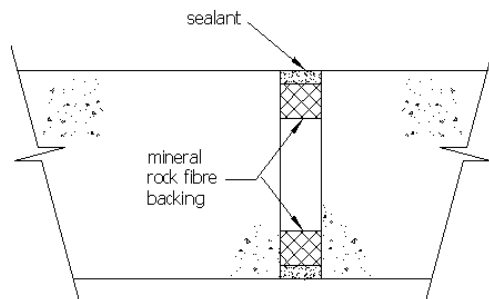


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Rigid wall constructions with wall thickness of minimum 150 mm

Linear Joint Seal: Vertically oriented Firebreak 22 to both sides of the wall

Construction details:



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Firebreak 22 Linear Joint Seals in Rigid Walls 150 mm thick (min.) – Sealant flush to both faces of the wall			
Substrate	Depth (mm)	Backing	Classification
Masonry/concrete	10 min.	Firebreak 44 PU Foam 130 mm deep min.	EI 240 – V – X – F – W 50
	15 min.	Polyethylene rod	E 240 – V – X – F – W 30 EI 180 – V – X – F – W 30
	10 min.	Polyethylene rod	E 240 – V – X – F – W 20 EI 180 – V – X – F – W 20
Masonry/ concrete to steel	10 min.	Polyethylene rod	E 240 – V – X – F – W 30 EI 90 – V – X – F – W 30
	25 min.	50 mm Rockwool RW4 Stone wool	EI 240 – V – X – F – W 50
Masonry/ concrete to timber	20 min.	Polyethylene rod	EI 120 – V – X – F – W 30
Timber/ Concrete	15 min.	Rockwool RW4 Stone wool, 120 mm deep min.	EI 180 – V – X – F – W 30
	25 min.	50 mm Rockwool RW4 Stone wool	EI 120 – V – X – F – W 50



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Linear Joint Seal: Firebreak 22 to both sides of the wall

Construction details:

Softwood timber
92mm x 32mm

150

20

32

92

Firebreak 22
10 thick

Firebreak 44 PU foam

Substrate	Depth (mm)	Backing	Classification
Timber/ Concrete or concrete/ concrete	10 min.	72mm Firebreak 44	EI 120 – V – X – F – W 20

Solutions

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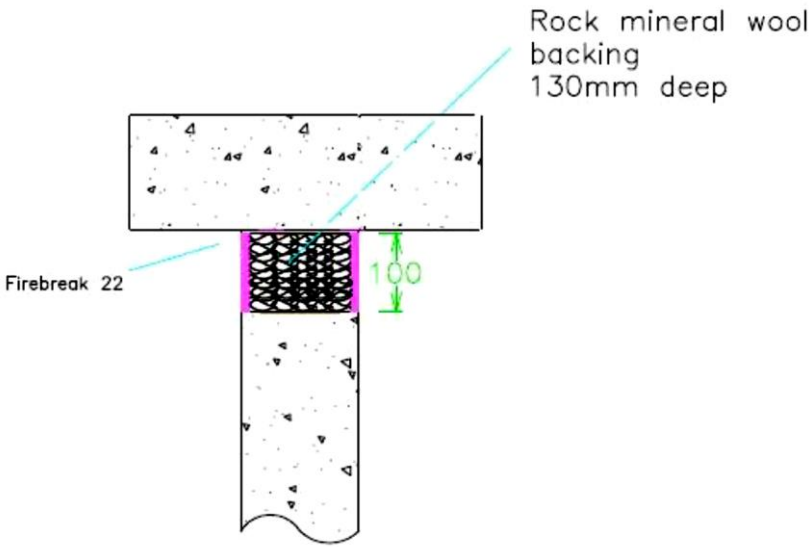
UL International (UK) Limited
Unit 1-4 Horizon, Kingsland Business Park, Wade Rd.,
Basingstoke. RG24 8AH United Kingdom
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Linear joint or gap seal, horizontally oriented at the head of walls, with sealant to both faces

Linear Joint Seal: Firebreak 22 to both sides of the wall, joint width of 100 mm

Construction details:



Rock mineral wool backing
backing
130mm deep

Firebreak 22

100

Substrate	Depth (mm)	Backing	Classification
Masonry/Concrete	10 min.	130 mm Rockwool RW4 Stone wool	EI 240 – T – X – F – W 100



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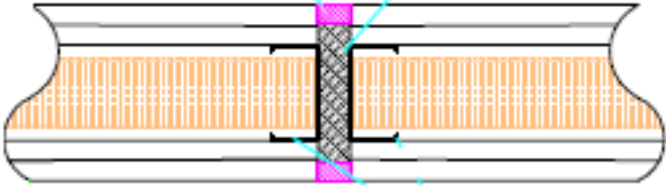
Flexible wall constructions up to 3m high, with wall thickness of minimum 100 mm

Linear Joint Seal: Firebreak 22 to both sides of the wall, joint widths of 25 mm

Construction details:

Firebreak 22
25mm wide x 10 deep

80mm thick rock
fibre backing



Substrate	Depth (mm)	Backing	Classification
Gypsum board/ Gypsum board	10 min.	80 mm Rockwool RW4 Stone wool	EI 120 – V – X – F – W 25

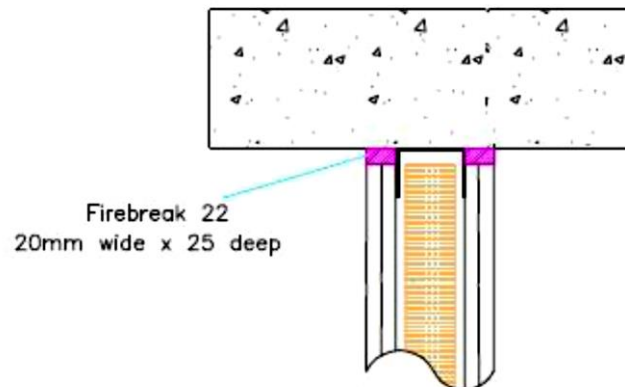
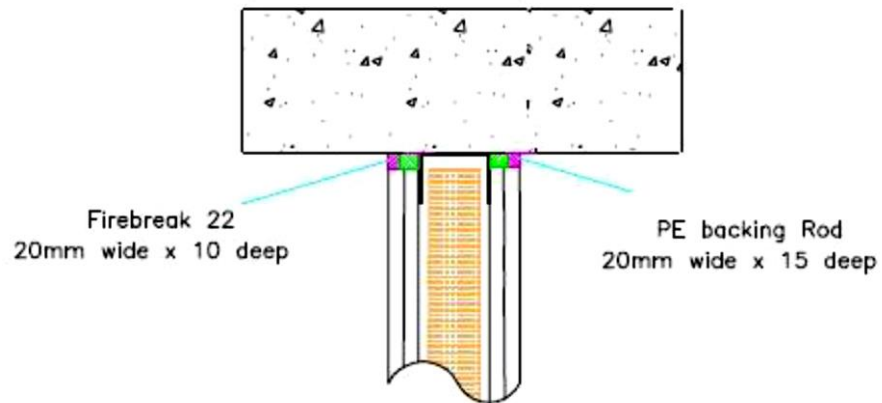


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Linear joint or gap seal, horizontal linear joint seals, between the head of flexible walls minimum 100 mm thick and rigid floors

Linear Joint Seal: Firebreak 22 to both sides of the wall

Construction details:



Substrate	Depth (mm)	Backing	Classification
Plasterboard / Concrete	25 min.	50 mm steel head track	EI 120 – T – X – F – W 20
	10 min.	15 mm PE backer plus 50 mm steel head track	



Solutions

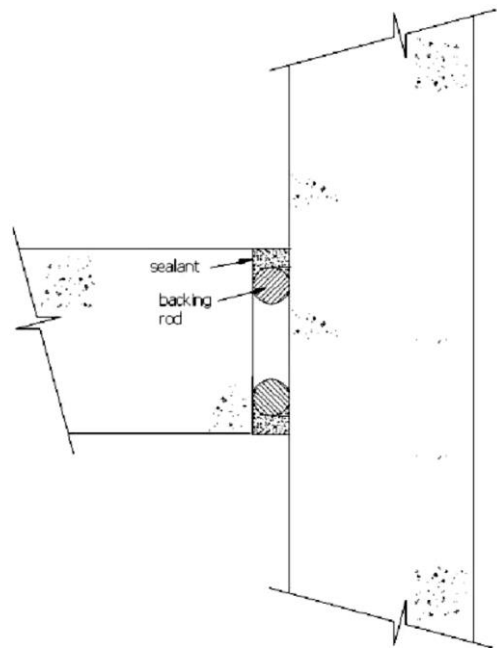
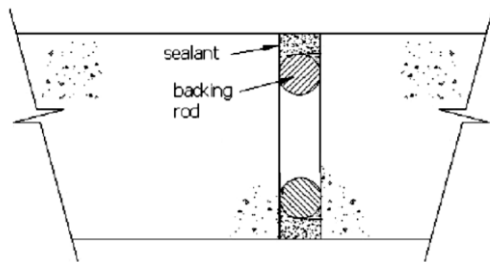
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Rigid wall constructions with wall thickness of minimum 100 mm

Linear Joint Seal: Vertically oriented Firebreak 22 to both sides of the wall

Construction details:



Firebreak 22 Linear Joint Seals in Rigid Walls 100 mm thick (min.) – Sealant flush to both faces of the wall

Substrate	Depth (mm)	Backing	Classification
Masonry/ Concrete	15 min.	Polyethylene rod	E 240 – V – X – F – W 00 to 30 EI 120 – V – X – F – W 00 to 30



Solutions

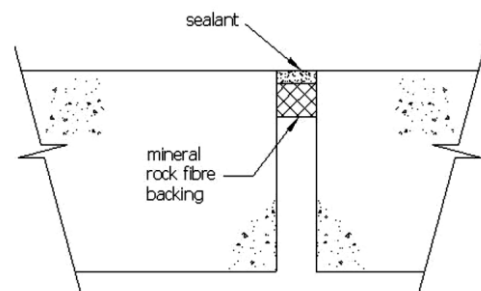
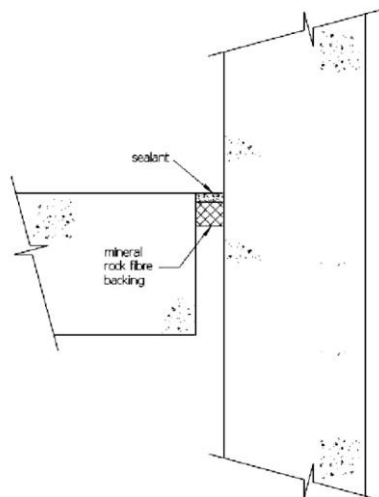
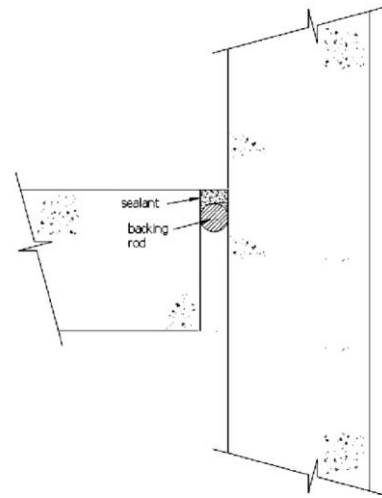
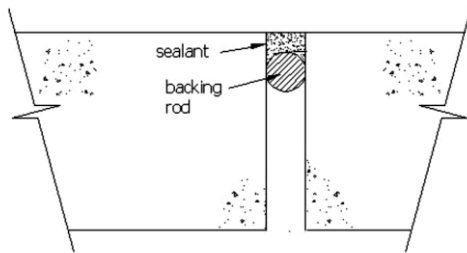
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Rigid floor constructions with wall thickness of minimum 150 mm

Linear Joint Seal: Firebreak 22 between floor slabs or between floor slab and wall with sealant to the top face of the floor only

Construction details:



Firebreak 22 Linear Joint Seals in Rigid Floors 150 mm thick (min.) – Sealant to the top of the floor only			
Substrate	Depth (mm)	Backing	Classification
Masonry/ Concrete	10 min.	Stone wool 90 kg/m ³ 25 mm deep min.	E 240 – H – X – F – W 00 to 30 EI 180 – H – X – F – W 00 to 30
	15 min.	Polyethylene rod	E 90 – H – X – F – W 00 to 30 EI 45 – H – X – F – W 00 to 30
	10 min.	Polyethylene rod	E 240 – H – X – F – W 00 to 20 EI 60 – H – X – F – W 00 to 20
	10 min.	Polyethylene rod	E 240 – H – X – F – W 00 to 10 EI 120 – H – X – F – W 00 to 10



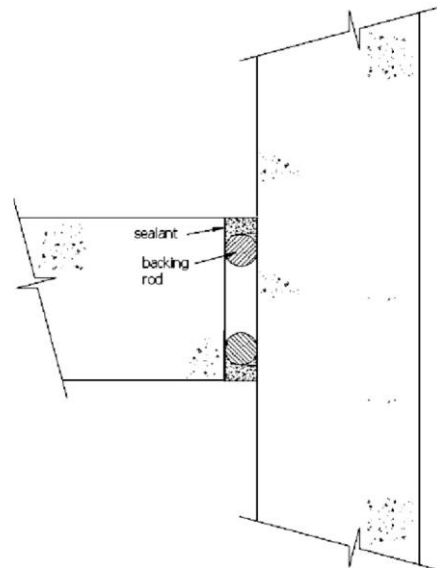
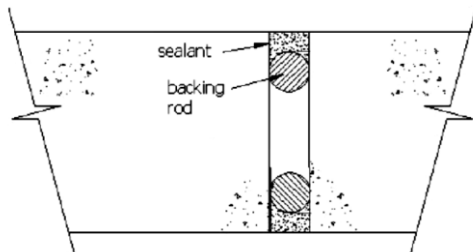
Solutions

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Linear Joint Seal: Firebreak 22 between floor slabs or between floor slab and wall with sealant to the top face of the floor only

Construction details:



Firebreak 22 Linear Joint Seals in Rigid Floors 150 mm thick (min.) – Sealant flush to both faces of the floor

Substrate	Depth (mm)	Backing	Classification
Masonry/ Concrete	10 min.	Polyethylene rod	E 240 – H – X – F – W 00 to 30 EI 180 – H – X – F – W 00 to 30
Masonry/ concrete to steel	10 min.	Polyethylene rod	E 240 – H – X – F – W 00 to 30 EI 90 – H – X – F – W 00 to 30



Solutions

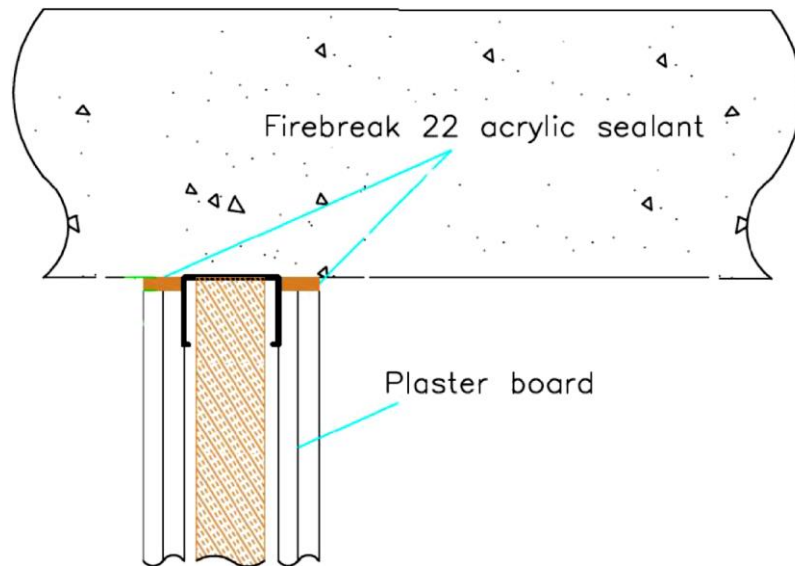
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Flexible wall constructions with wall thickness of minimum 110 mm

Linear joint seal: Firebreak 22 between the top of the wall boards and the floor soffit, seal to both faces

Construction details:



Firebreak 22 Linear Joint Seals at the head of Flexible Walls 110 mm thick (min.) – Sealant flush to both faces of the wall

Substrate	Depth (mm)	Backing	Classification
Masonry/ Concrete to gypsum board	30 min.	50 mm (min.) steel head track infilled with 50 mm stone wool	EI 120 – T – X – F – W 00 to 10



Solutions

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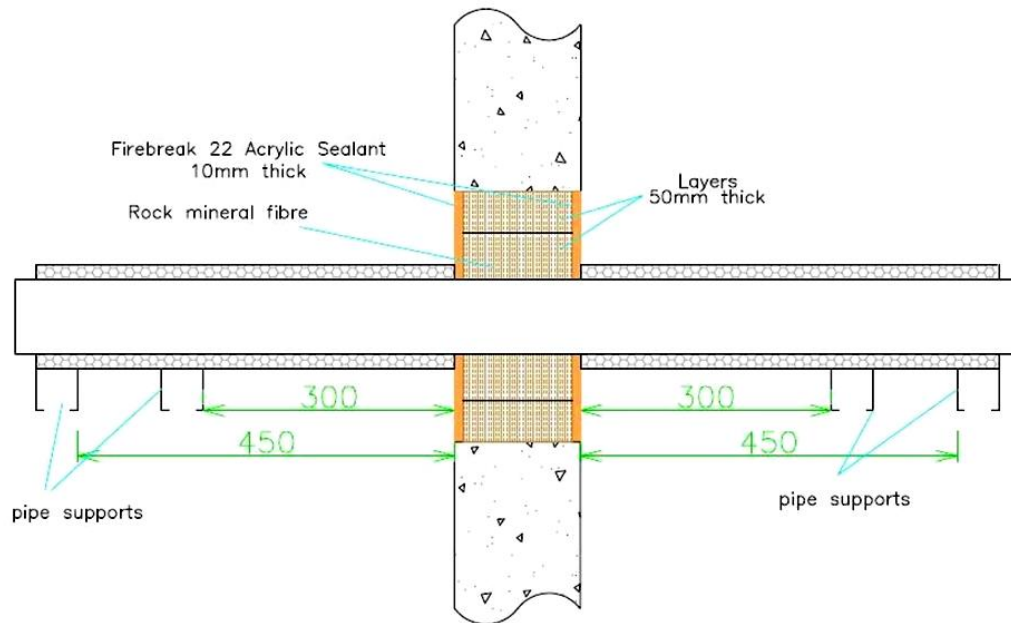
Penetration Seals

Rigid wall constructions with wall thickness of minimum 150 mm

Penetration seal with metal pipe including combustible insulation

Penetration Seal: Metal pipes, insulated with 500 mm long local interrupted (LI) or continuous interrupted (CI) combustible pipe insulation, fitted centrally with a single Firebreak 22 seal to both sides of the wall backed with minimum 130 mm deep Stone wool insulation 90kg/m³.

Construction details:



Pipes with local interrupted (minimum 500 mm) or continuous 19 mm thick Armacell 'Class O Armaflex' Insulation

Firebreak 22 Penetration Seals in Rigid Walls 150 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
300 x 300	10 mm deep Firebreak 22 flush to both faces of the wall backed with 130 mm deep Stone wool (90 kg/m ³)	Single mild steel pipe 89 mm diameter and 3 – 14.2 mm wall	Central	EI 120 C/U
		Single copper or mild steel pipe 35 mm diameter and 1 – 14.2 mm wall		EI 90 C/U



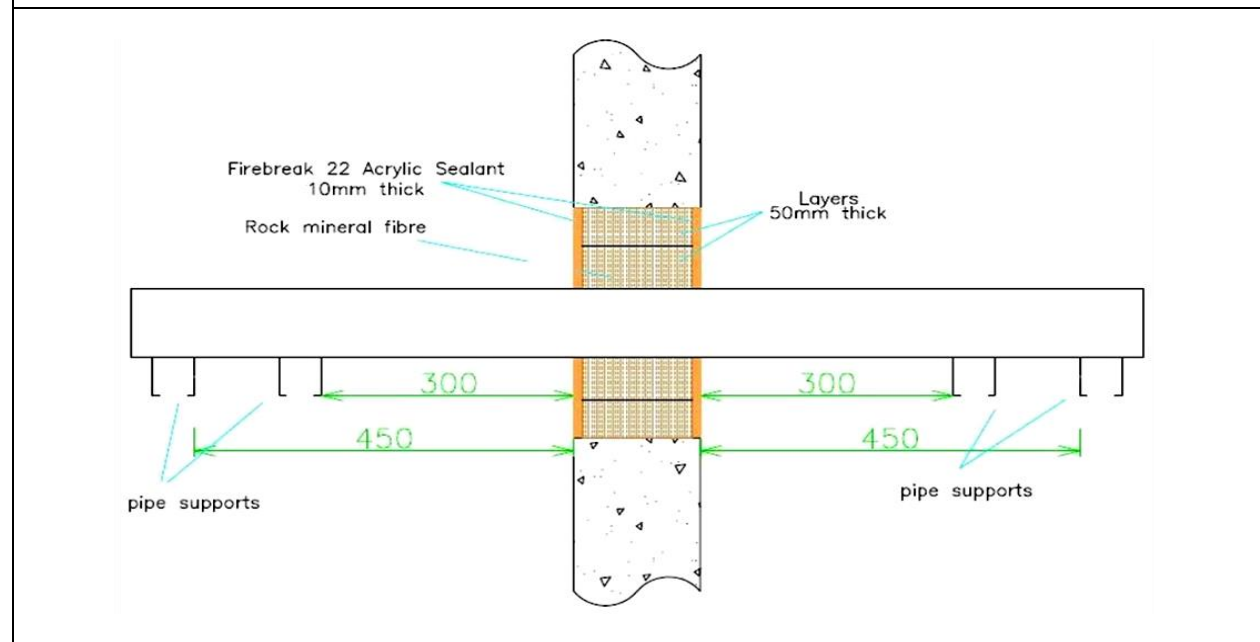
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Penetration seal with metal pipe without insulation

Penetration Seal: Metal pipes, uninsulated, fitted centrally with a single Firebreak 22 seal to both sides of the wall backed with minimum 130 mm deep Stone wool insulation 90kg/m³.



Pipes without insulation

Firebreak 22 Penetration Seals in Rigid Walls 150 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
300 x 300	10 mm deep Firebreak 22 flush to both faces of the wall backed with 130 mm deep Stone wool (90 kg/m ³)	Single mild steel pipe 89 mm diameter and 3 – 14.2 mm wall	Central	E 120 C/U, EI 30 C/U
		Single copper or mild steel pipe 35 mm diameter and 1 – 14.2 mm wall		E 90 C/U



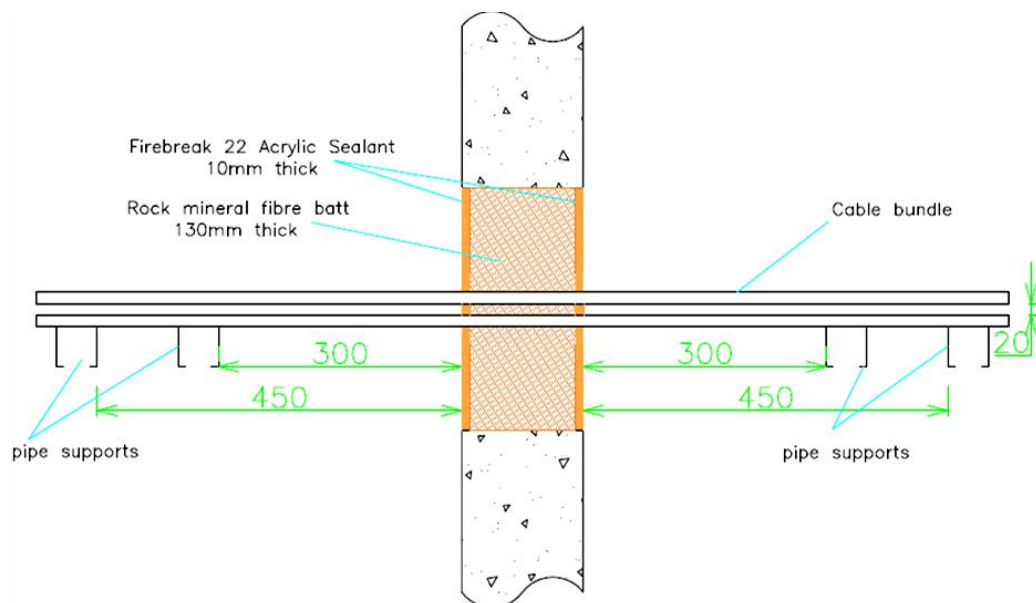
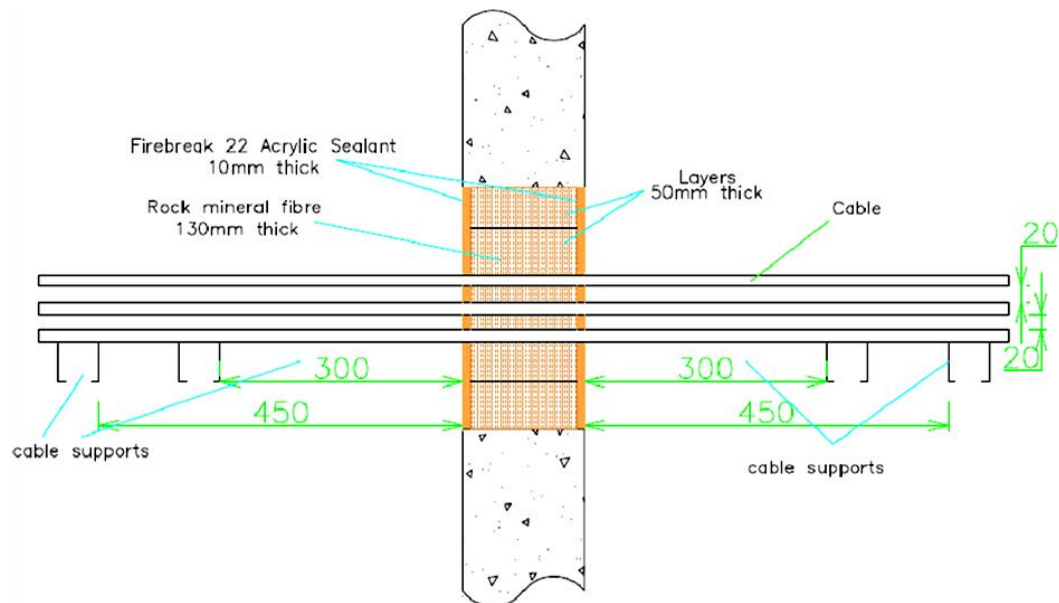
Solutions

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Penetration seal with Cables

Penetration Seal: Telecomms and electrical cables fitted centrally in the aperture with a single Firebreak 22 seal to both sides of the wall backed with minimum 130 mm deep Stone wool insulation 110kg/m³.



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Cables

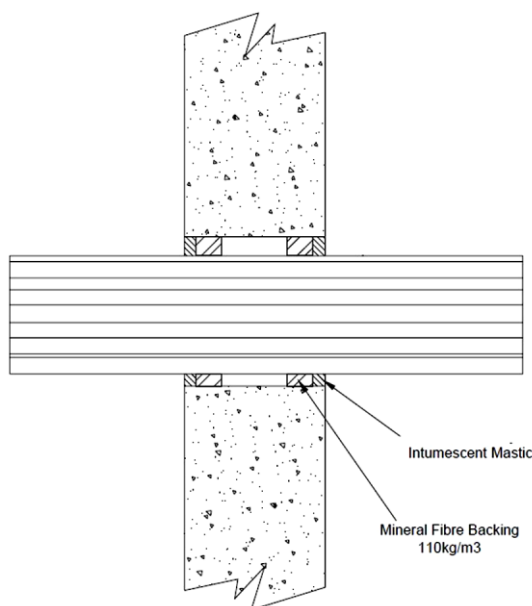
Firebreak 22 Penetration Seals in Rigid Walls 150 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
300 x 300	10 mm deep Firebreak 22 flush to both faces of the wall backed with 130 mm deep Stone wool (90 kg/m ³)	Up to 21 x 16 mm diameter – 3 x 6 mm copper core, steel armoured cables – (BS7671-6943XLH) with minimum 20 mm separation	Central	E 120, EI 60
		Single bundle of 9 x 30mm diameter– 4 x 25 mm Copper core, steel armoured cables – (BS7671-6944XLH)		



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Penetration seal with cables

Penetration Seal: Telecomms and electrical cables fitted centrally in the aperture with a single Firebreak 22 seal to both sides of the wall backed with minimum 25 mm deep Stone wool insulation 110kg/m³.



Cables

Firebreak 22 Penetration Seals in Rigid Walls 150 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
110 diameter	12mm deep Firebreak 22 flush to both faces of the wall backed with 25 mm deep Stone wool (110 kg/m ³)	Telecoms cables up to 21mm diameter in a bundle of up to 40 no.	Central	EI 60
120 diameter	15 mm deep Firebreak 22 flush to both faces of the wall backed with 25 mm deep Stone wool (110 kg/m ³)	Electrical cables – Type A3, in a bundle of up to 20 no.		E 240, EI 120
90 diameter		Electrical cables – Type C3, in a bundle of up to 2 no.		E 240, EI 60

Type A3 cable = 5 x 1.5 mm² core HD604.5 electrical cable with XLPE insulation, EVA sheath and 13 mm diameter
Type C3 cable = 4 x 95 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 42 mm diameter



Solutions

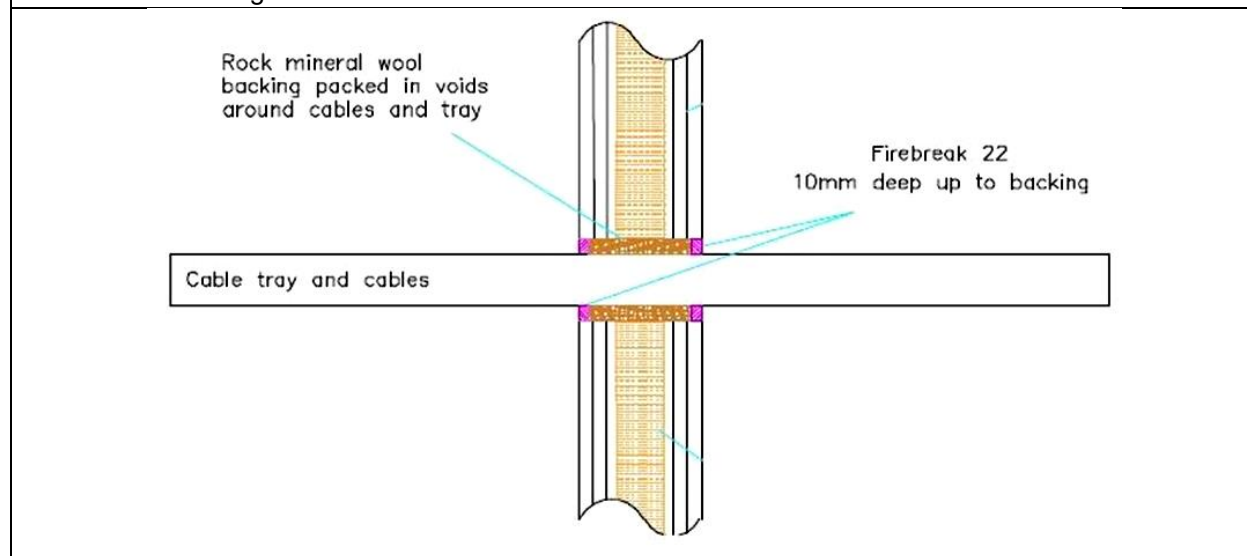
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Flexible or rigid wall constructions with wall thickness of minimum 100 mm

Penetration seal with cables

Penetration Seal: Electrical cables on steel trays up to 300 mm wide, fitted centrally in the aperture with a single Firebreak 22 seal to both sides of the wall backed with full depth (minimum 80 mm) deep Stone wool insulation 90kg/m³.



Cables

Firebreak 22 Penetration Seals in Flexible or Rigid Walls 100 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
400 x 300	10 mm deep Firebreak 22 flush to both faces of the wall backed with 80 mm deep Stone wool (90 kg/m ³)	Electrical cables up to 50 mm diameter	Central	E 120, EI 30
		Electrical cable – Type D1		E 120, EI 60
		Electrical cable – Type A1 in a bundle of up to 10 no.		
		Electrical cable – Type A3 in a bundle of up to 10 no.		E 120, EI 45
		Electrical cable – Type A2 in a bundle of up to 10 no.		E 120, EI 30
		Electrical cable – Type B		E 120, EI 60
		Electrical cable – Type C1		E 120, EI 45
		Electrical cable – Type C2		E 120, EI 30
		Electrical cable – Type C3		
		Electrical cable – Type E		

Type A1 cable = 5 x 1.5 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 14 mm diameter
Type A2 cable = 5 x 1.5 mm² core HD22.4 electrical cable with EPR insulation, PO sheath and 11.2-14.4 mm diameter
Type A3 cable = 5 x 1.5 mm² core HD604.5 electrical cable with XLPE insulation, EVA sheath and 13 mm diameter
Type B cable = 1 x 95 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 18-21 mm diameter
Type C1 cable = 4 x 95 mm² core HD604.5 electrical cable with XLPE insulation, EVA sheath and 42 mm diameter
Type C2 cable = 4 x 95 mm² core HD22.4 electrical cable with EPR insulation, PO sheath and 48.4-61 mm diameter
Type C3 cable = 4 x 95 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 42 mm diameter
Type D1 cable = 4 x 185 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 52 mm diameter
Type E cable = 1 x 185 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 23-27 mm diameter



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Cables wrapped with 300 mm long, 5 mm thick Insulwrap material*

Firebreak 22 Penetration Seals in Flexible or Rigid Walls 100 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
400 x 300	10 mm deep Firebreak 22 flush to both faces of the wall backed with 80 mm deep Stone wool (90 kg/m ³)	Electrical cables up to 21 mm diameter	Central	E 120, EI 60
		Electrical cables up to 50 mm diameter		E 120, EI 45
		Electrical cable – Type D1		E 120, EI 60
		Electrical cable – Type A1 in a bundle of up to 10 no.		E 120, EI 90
		Electrical cable – Type A3 in a bundle of up to 10 no.		
		Electrical cable – Type A2 in a bundle of up to 10 no.		E 120, EI 60
		Electrical cable – Type B		
		Electrical cable – Type C1		
		Electrical cable – Type C2		
		Electrical cable – Type C3		E 120, EI 45
		Electrical cable – Type E		E 120, EI 60

* On both sides or if the fire risk side is known, on the non-hazard side only

Type A1 cable = 5 x 1.5 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 14 mm diameter
Type A2 cable = 5 x 1.5 mm² core HD22.4 electrical cable with EPR insulation, PO sheath and 11.2-14.4 mm diameter
Type A3 cable = 5 x 1.5 mm² core HD604.5 electrical cable with XLPE insulation, EVA sheath and 13 mm diameter
Type B cable = 1 x 95 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 18-21 mm diameter
Type C1 cable = 4 x 95 mm² core HD604.5 electrical cable with XLPE insulation, EVA sheath and 42 mm diameter
Type C2 cable = 4 x 95 mm² core HD22.4 electrical cable with EPR insulation, PO sheath and 48.4-61 mm diameter
Type C3 cable = 4 x 95 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 42 mm diameter
Type D1 cable = 4 x 185 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 52 mm diameter
Type E cable = 1 x 185 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 23-27 mm diameter



Solutions

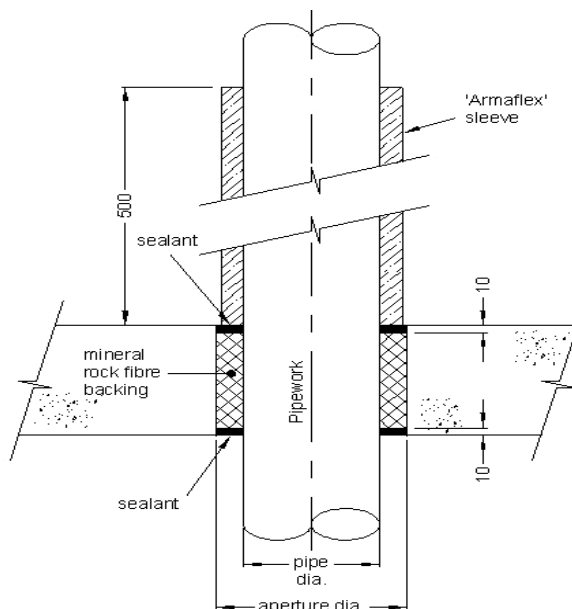
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Appendix UL-EU CERTIFICATE UL-EU-00597-EN

Rigid floor constructions with floor thickness of minimum 150 mm

Penetration seal with metal pipe including combustible insulation

Penetration Seal: Metal pipes, insulated with 500 mm long local interrupted (LI) or continuous interrupted (CI) combustible pipe insulation, fitted centrally with a single Firebreak 22 seal to both sides of the floor backed with minimum 130 mm deep Stone wool insulation 90kg/m³.



Pipes with local interrupted (minimum 500 mm) or continuous interrupted 25 mm thick Armacell 'Class O Armaflex' Insulation

Firebreak 22 Penetration Seals in Rigid Floors 150 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
150 diameter	10 mm deep Firebreak 22 flush to both faces of the wall backed with 130 mm deep Stone wool (90 kg/m ³)	Single mild steel pipe 89 mm diameter and 3 – 14.2 mm wall	Central	E 240 C/U, EI 120 C/U

Pipes with local interrupted (minimum 500 mm) or continuous interrupted 19 mm thick Armacell 'Class O Armaflex' Insulation

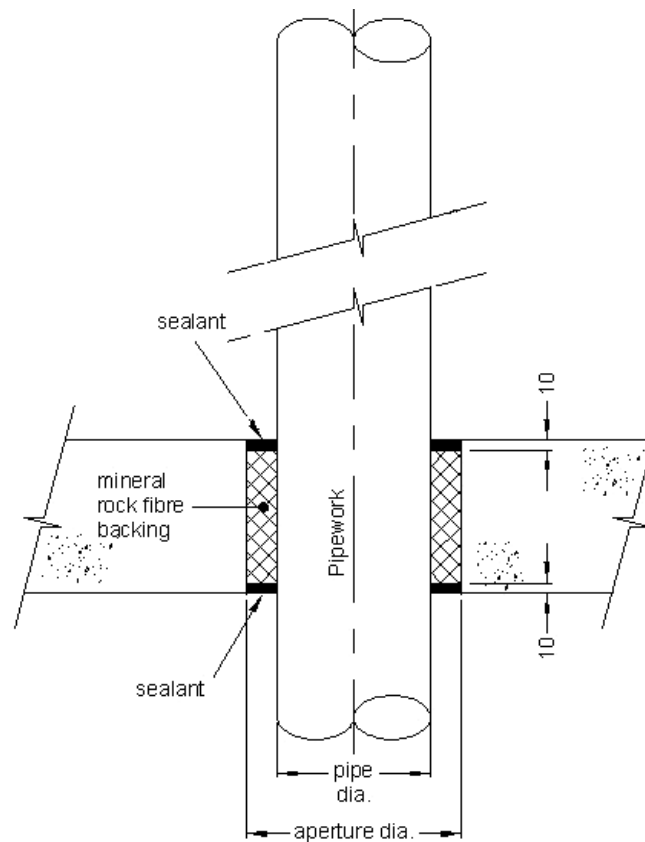
Firebreak 22 Penetration Seals in Rigid Floors 150 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
150 diameter	10 mm deep Firebreak 22 flush to both faces of the wall backed with 130 mm deep Stone wool (90 kg/m ³)	Single copper or mild steel pipe 35 mm diameter and 1.2 – 14.2 mm wall with local (500 mm long) or continuous/interrupted 19 mm thick Armaflex insulation	Central	E 240 C/U, EI 180 C/U



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Penetration seal with metal pipe without insulation

Penetration Seal: Metal pipes, uninsulated, fitted centrally with a single Firebreak 22 seal to both sides of the floor backed with minimum 130 mm deep Stone wool insulation 90kg/m³.



Pipes without Insulation

Firebreak 22 Penetration Seals in Rigid Floors 150 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
150 diameter	10 mm deep Firebreak 22 flush to both faces of the wall backed with 130 mm deep Stone wool (90 kg/m ³)	Single mild steel pipe 89 mm diameter and 3 – 14.2 mm wall	Central	E 240 C/U, EI 15 C/U
		Single copper or mild steel pipe 35 mm diameter and 1.2 – 14.2 mm wall		E240



Solutions

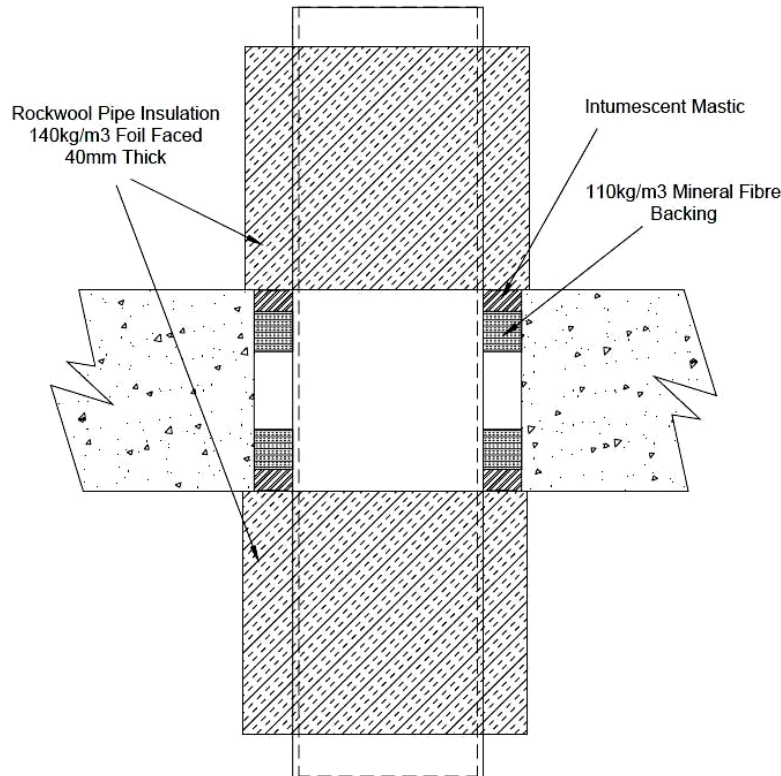
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Appendix UL-EU CERTIFICATE UL-EU-00597-EN

Penetration seal with metal pipe with stone wool insulation

Penetration Seal: Metal pipes, insulated with 140kg/m³ Rockwool Pipe Insulation fitted centrally with a single Firebreak 22 seal to both sides of the floor backed with minimum 25 mm deep Stone wool insulation 110kg/m³.

Construction details:



Pipes with 40 mm thick/500 mm long, 140 kg/m³ stone wool insulation

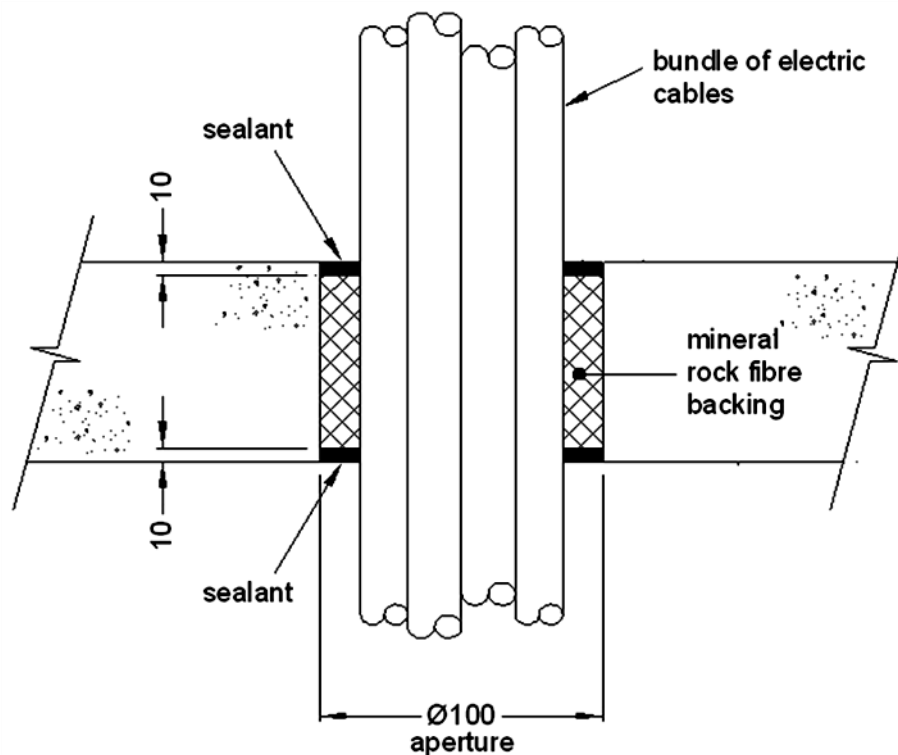
Firebreak 22 Penetration Seals in Rigid Floors 150 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
300 diameter	20 mm deep Firebreak 22 flush to both faces of the wall backed with 25 mm deep Stone wool (110 kg/m ³)	Steel pipe, diameter 219 mm, wall thickness 8-14.2 mm	Central	E 180 C/C, EI 120 C/C
120 diameter	15 mm deep Firebreak 22 flush to both faces of the wall backed with 25 mm deep Stone wool (110 kg/m ³)	Copper or steel pipe, diameter 54 mm, wall thickness 1.2-14.2 mm		E 240 C/C, EI 180 C/C



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Penetration seal with cables

Penetration Seal: Telecomms and electrical cables fitted centrally in the aperture with a single Firebreak 22 seal to both sides of the floor.



Cables

Firebreak 22 Penetration Seals in Rigid Floors 150 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
100 diameter	10 mm deep Firebreak 22 flush to both faces of the wall backed with 130 mm deep Stone wool (90 kg/m ³)	Single bundle of 21 x 14 mm diameter - 3 x 1.5 mm ² copper core/steel armoured cables (BS7671- 6944XLH)	Central	E 240, EI 120
		Single bundle of 4 x 25 mm diameter - 4 x 16 mm ² core copper/steel armoured cables (BS7671-6944XLH), and 5 x 19 mm diameter - 4 x 6.0 mm ² core copper/steel armoured cables (BS7671-6944LSH)		E 240, EI 90



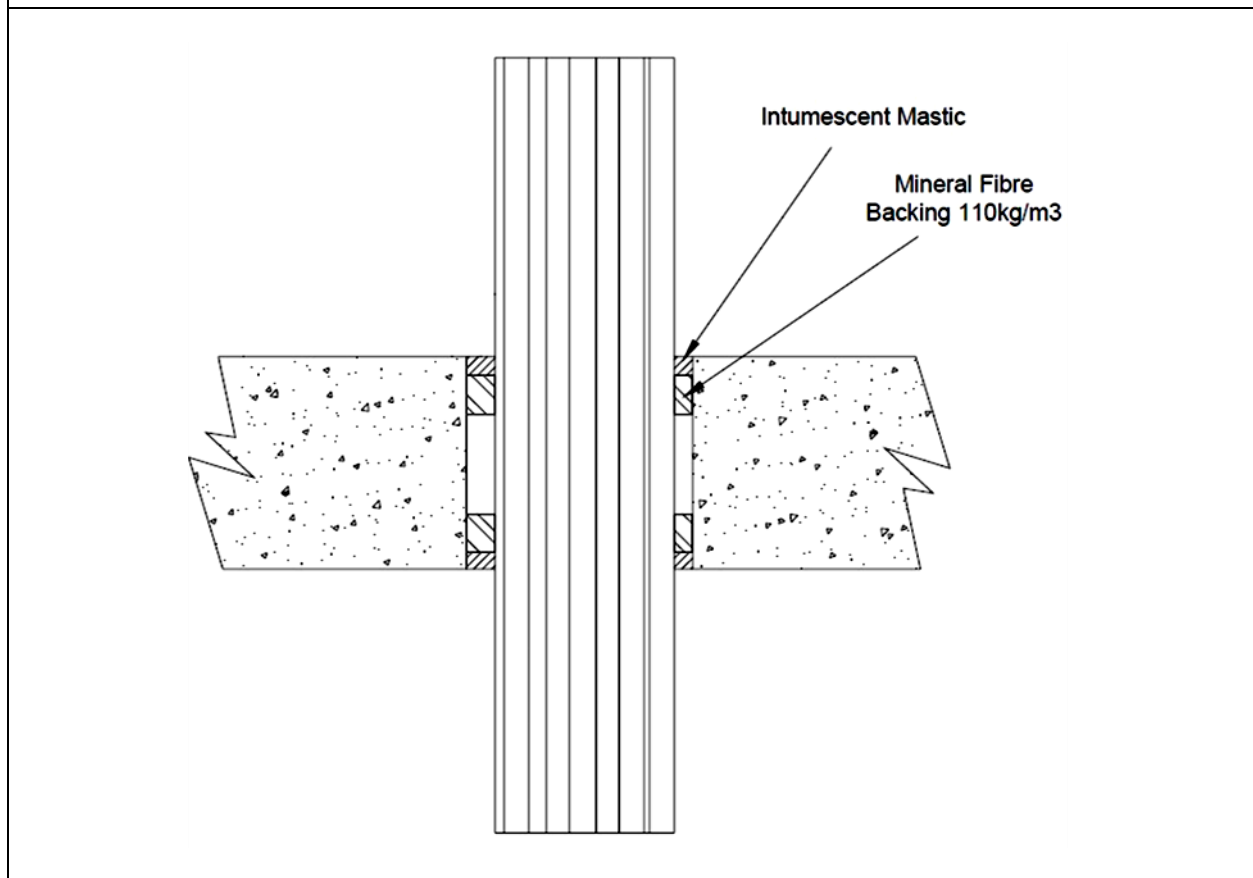
Solutions

Form-ULID-006104 V8.0

Appendix UL-EU CERTIFICATE UL-EU-00597-EN

Penetration seal with cables

Penetration Seal: Telecomms and electrical cables fitted centrally in the aperture with a single Firebreak 22 seal to both sides of the floor



Cables

Firebreak 22 Penetration Seals in Rigid Floors 150 mm thick (min.)				
Aperture size (mm)	Seal composition	Service(s)	Position of service(s)	Classification
120 diameter	12 mm deep Firebreak 22 flush to both faces of the wall backed with 25 mm deep Stone wool (110 kg/m ³)	Telecomms cables up to 21mm diameter in a bundle of up to 40 no.	Central	E 240, EI 90
	20 mm deep Firebreak 22 flush to both faces of the wall backed with 25 mm deep Stone wool (110 kg/m ³)	Electrical cables – Type C1, in a bundle of up to 2 no.		E 120, EI 60
90 diameter	15 mm deep Firebreak 22 flush to both faces of the wall backed with 25 mm deep Stone wool (110 kg/m ³)	Electrical cables – Type C3, in a bundle of up to 2 no.		E 120, EI 45

Type C1 cable = 4 x 95 mm² core HD604.5 electrical cable with XLPE insulation, EVA sheath and 42 mm diameter
Type C3 cable = 4 x 95 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 42 mm diameter



Solutions

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Appendix UL-EU CERTIFICATE UL-EU-00597-EN

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The minimum height of the registered trademark symbol ® shall be 1 mm. When the overall diameter of the UL-EU Mark is less than 9.5 mm, the trademark symbol may be omitted if it is not legible to the naked eye.

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