

UL-EU CERTIFICATE

Certificate No. UL-EU-01075-CPR
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Date of Issue 2018-03-16

Certificate Holder Neutron Fire Technologies Limited
Shire Hall
Quay Street
Lostwithiel
Cornwall
PL22 0BS
Manufacturer A/017

Certified Product Type Fire Stop – Coated Board
Product Trade Name Firebreak Batt
Trademark N/A
Rating/Classification See Appendix
Expiry date 2028-03-15



A handwritten signature in purple ink, appearing to read 'Chris Miles'.

Head of Notified Body
Chris Miles

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shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.



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This certificate relates to the use of Firebreak Batt for fire stopping where there are service penetrations through floors and walls. The detailed scope is given in pages 3 to 17 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) Inspection and surveillance of factory production control by UL
- ii) Fire resistance test data in accordance with EN 1366-3: 2009
- iii) Classification in accordance with EN 13501-2
- iv) Durability and Servicability as defined in EAD 350454-00-1104, Clause 2.2.9

Firebreak Batt has been tested in accordance with the requirements of EAD 350454-00-1104, Clause 2.2.9 to demonstrate its suitability for use in intended for use at internal conditions including those with high humidity, excluding temperatures below 0°C. These conditions are designated Z₁ in EAD 350454-00-1104.



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Product-type: Coated Board		Intended use: Penetration Seal
Basic requirement for construction work	Essential characteristic	Performance
	Mechanical resistance and stability	
-	None	Not relevant
Safety in case of fire		
EN 13501-1	Reaction to fire	Class E
EN 13501-2	Resistance to fire	See page 4
Hygiene, health and environment		
EN 1026:2000	Air permeability (material property)	See page 13
ETAG 026-2, Annex C	Water permeability (material property)	No performance determined
Declaration of manufacturer	Release of dangerous substances	Use categories: IA3, S/W3 Declaration of manufacturer
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	Adhesion	No performance determined
Protection against noise		
EN 10140-2/ EN ISO 717-1	Airborne sound insulation	See page 14
Energy economy and heat retention		
EN 12664, EN 12667 or EN 12939	Thermal properties	No performance determined
EN ISO 12572 EN 12086	Water vapour permeability	No performance determined
General aspects relating to fitness for use		
EN 13162 or EN 14303, EN ISO 1519	Durability and serviceability	Z ₁



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Firebreak Batt: Service Penetration Seals in Walls								
Substrate	Minimum Substrate Thickness (mm)	Maximum Opening Size (mm)	Penetrating Services	Seal Position	Minimum Seal Depth (mm)	Additional seal materials	Fire Resistance (mins.)	
							E	EI
Gypsum ^s / Masonry/ Concrete	130	1200 wide x 1800 high	Electrical cables up to 80 mm Ø	To both faces of wall	50 (x2) + 30 air gap	Batt Box*	120	120
			Steel cable trays & ladders					
			Unsheathed wires up to 24 mm diameter			None	90	90
			Telecom cables up to 21 mm Ø				120	60
			Steel pipe, 220 mm diameter / 8.5 – 14.2 mm wall					

* Batt Box 150 mm deep is formed within the primary seal, comprising a lining 50 mm thick Firebreak Batt infilled with stone wool mineral fibre 64 kg/m³ coated on both faces with 3 mm Firebreak 22.

^s aperture lined with 2 layers of gypsum board



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Substrate	Minimum Substrate Thickness (mm)	Maximum Opening Size (mm)	Penetrating Services	Seal Position	Minimum Seal Depth (mm)	Additional seal materials	Fire Resistance (mins.)	
							E	EI
Gypsum ^s / Masonry/ Concrete	130	1200 wide x 1800 high	Electrical cables up to 22-80 mm Ø (single, bundled and on steel trays/ladders up to 500 mm wide)	Central	50	50 mm Firebreak Batt, 220 mm long LS	60	60
			Copper or Steel pipe 159 mm diameter / 2-14.2 mm wall			30 mm Paroc Stone wool CI		
			Copper or Steel pipe 15 mm diameter / 1- 7.5 mm wall			40 mm Paroc Stone wool CI		

LI = local Interrupted, CI – Continuous Interrupted, LS – Local Sustained

^s aperture lined with 2 layers of gypsum board



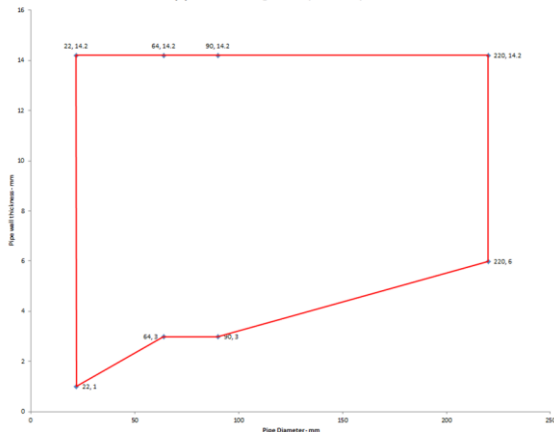
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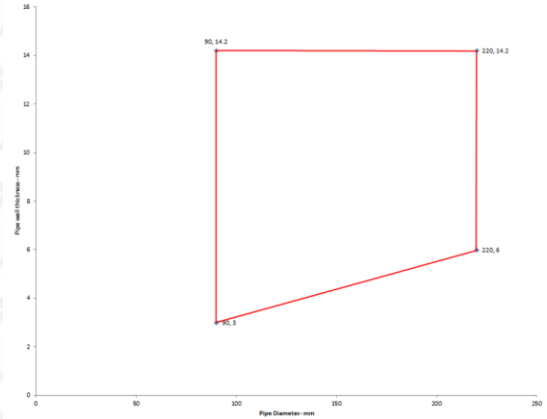
Firebreak Batt: Service Penetration Seals in Walls

Substrate	Minimum Substrate Thickness (mm)	Maximum Opening Size (mm)	Penetrating Services	Seal Position	Minimum Seal Depth (mm)	Additional seal materials	Fire Resistance (mins.)	
							E	EI
Gypsum ^s / Masonry/ Concrete	130	1200 wide x 1800 high	Electrical cables up to 21 mm Ø (single, bundled and on steel trays/ladders up to 500 mm wide)	Central	50	Batt Box*	120	60
			Telecom cable up to 21 mm Ø in tied bundles up to 100mm Ø				90	90
			Unsheathed wires up to 24 mm diameter				120	60
			Electrical cables up to 22-80 mm Ø (single, bundled and on steel trays/ladders up to 500 mm wide)				120	45
			Steel pipe 64 mm diameter / 3.0-14.2 mm wall			5x 1 mm thick coating on pipe, 200mm along the pipe	120	45
			Steel pipe 90 mm diameter / 3.0-14.2 mm wall			20 mm thick Kaiflex elastomeric insulation CI		
			Steel pipe 90 mm diameter / 3.0-14.2 mm wall			5x 1 mm thick coating on pipe, 200mm along the pipe	120	20
			Steel pipe 220 mm diameter / 6.0-14.2 mm wall			5x 1 mm thick coating on pipe, 200mm along the pipe	120	45
			Copper or Steel pipe 22 mm diameter / 1.0-14.2 mm wall			N/A	120	120
			Copper or Steel pipe 22 mm diameter / 1.0-14.2 mm wall			40mm thick glass wool insulation (80kg/m ³) CI	120	60
			Copper or Steel pipe 22 mm diameter / 1.0-14.2 mm wall			25mm thick Kingspan Phenolic insulation (37kg/m ³) CI		
			Copper or Steel pipe 22 mm diameter / 1.0-14.2 mm wall			5x 1 mm thick coating on pipe, 200mm along the pipe	120	15

Steel pipes with coating E 120 U/C, EI 15 C/U



Steel pipes with coating E 120 U/C, EI 45 C/U



* 150mm deep 50mm wide perimeter batt lining the aperture fixed to the outer layers of batt with 2No. 100mm long 'pig tail' screws on each corner. 'Ripped' rock mineral wool (33kg/m³ density) stuffing around the cables and trays/ladders finished with a nominal skim of 3mm Firebreak 22

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^s aperture lined with 2 layers of gypsum board

27-CP-F0855 Issue: 1.0



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Substrate	Minimum Substrate Thickness (mm)	Maximum Opening Size (mm)	Penetrating Services	Seal Position	Minimum Seal Depth (mm)	Additional seal materials	Fire Resistance (mins.)	
							E	EI
Gypsum ^s / Masonry/ Concrete	130	1200 wide x 1800 high	Electrical cables up to 22-80 mm Ø (single, bundled and on steel trays/ladders up to 500 mm wide)	Central	50 x 2	50 mm thick Firebreak Batt, 220 mm long insulation LS	120	120
			Copper or Steel pipe 159 mm diameter / 2-14.2 mm wall			30 mm thick Paroc Stone wool pipe insulation CI		
			Copper or Steel pipe 15 mm diameter / 1-7.5 mm wall			40 mm thick Paroc Stone wool pipe insulation CI		

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Substrate	Minimum Substrate Thickness (mm)	Maximum Opening Size (mm)	Penetrating Services	Seal Position	Minimum Seal Depth (mm)	Additional seal materials	Fire Resistance (mins.)	
							E	EI
Gypsum/ Masonry/ Concrete	130	1200 wide x 1800 high	Type D3 Electrical cables up to 62.5 mm Ø (single, on steel ladder up to 200 mm wide)	Pattress fixed	50 x 2	50 mm thick Firebreak Batt, 230 mm long insulation LS	120	120
			Copper or Steel pipe 159 mm diameter / 2-14.2 mm wall			30 mm thick Paroc Stone wool pipe insulation CI		
			Copper or Steel pipe 15 mm diameter / 1-7.5 mm wall			40 mm thick Paroc Stone wool pipe insulation CI		
	100		Copper or Steel pipe, 15mm diameter / 0.7-7.5 mm wall thickness			Firebreak 22 coating sealing pipe to batt	90	20
			Copper or Steel pipe, 159mm diameter / 2.0-14.2 mm wall thickness					
LI = local Interrupted, CI – Continuous Interrupted, LS – Local Sustained Type D3 cable = 4 x 185 mm ² core HD604.5 electrical cable with XLPE insulation, EVA sheath and 52 mm diameter								



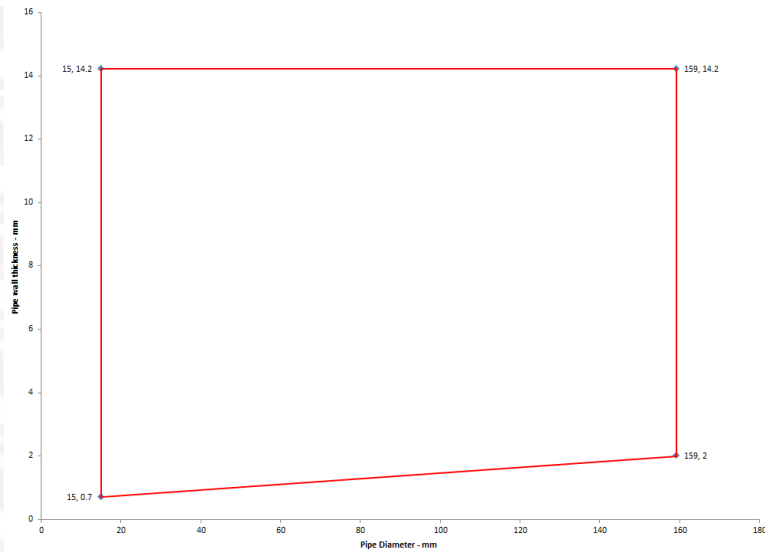
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Substrate	Minimum Substrate Thickness (mm)	Maximum Opening Size (mm)	Penetrating Services	Seal Position	Minimum Seal Depth (mm)	Additional seal materials	Fire Resistance (mins.)	
							E	EI
Gypsum ^s / Masonry/ Concrete	100	1200 wide x 1800 high	Copper or steel pipe, 15mm diameter / 0.7-14.2 mm wall thickness, 40mm thick foil faced rock mineral fibre - CS	Central	50 x 2	Firebreak 22 coating sealing pipe to batt	90	90
			Copper or steel pipe, 159mm diameter / 2.0-14.2 mm wall thickness, 40mm thick foil faced rock mineral fibre - CS					

Copper/steel pipes with 40 mm insulation- EI 90 U/C



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^s aperture lined with 2 layers of gypsum board

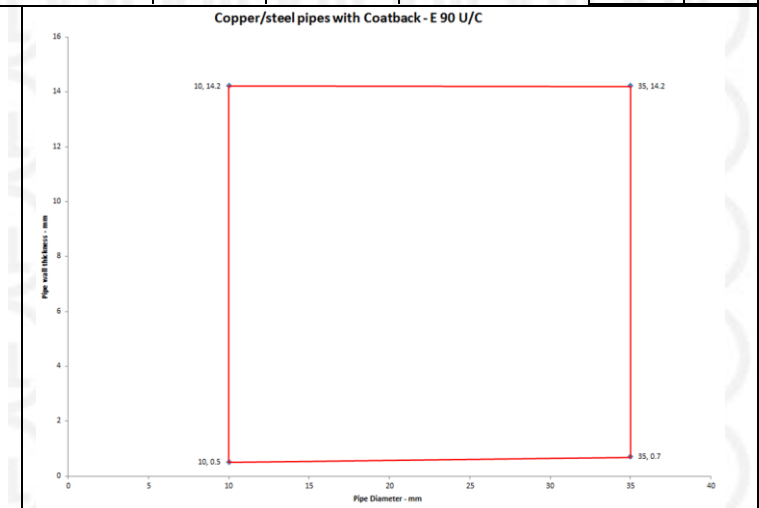
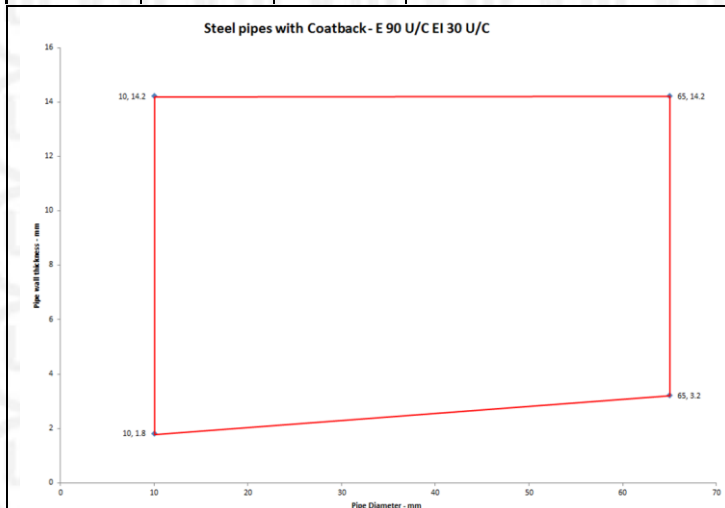


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Firebreak Batt: Service Penetration Seals in Walls

Substrate	Minimum Substrate Thickness (mm)	Maximum Opening Size (mm)	Penetrating Services	Seal Position	Minimum Seal Depth (mm)	Additional seal materials	Fire Resistance (mins.)	
							E	EI
Gypsum ^S / Masonry/ Concrete	100	1200 wide x 1800 high	Copper or steel pipe, 15 mm diameter / 0.7-14.2 mm wall, insulated with 40 mm glass wool - CS	Central	50	None	90	90
			Copper or steel pipe, 159 mm diameter / 2.0-14.2 mm wall, insulated with 30 mm foil faced stone wool - CS				90	60
			Copper or steel pipe, 10mm diameter / 0.5-14.2 mm wall thickness			Firebreak 22 coating sealing pipe to batt and 200 x1.6 mm coatback	90	90
			Copper or steel pipe, 35mm diameter / 0.7-14.2 mm wall thickness				90	30
			Steel pipe, 65mm diameter / 3.2-14.2 mm wall thickness				90	30
			Steel pipe, 10mm diameter / 1.8-14.2 mm wall thickness				90	60



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Substrate	Minimum Substrate Thickness (mm)	Maximum Opening Size (mm)	Penetrating Services	Seal Position	Minimum Seal Depth (mm)	Additional seal materials	Fire Resistance (mins.)	
							E	EI
Masonry/Concrete	130	1200 wide x 1800 high	Type A1 Electrical cables up to 14 mm Ø (bundle)	Central	50 x 2 + 30 air gap	Firebreak 22 around cables	120	120
			Type D2 Electrical cables up to 80 mm Ø (single)					
			Type C2 Electrical cables up to 61 mm Ø (single)					
			Cat, 5E Electrical cables (bundle)					
			Twin and earth cables (bundle)					

Type A1 cable = 5 x 1.5 mm² core HD603.3 electrical cable with PVC insulation, PVC sheath and 14 mm diameter
 Type D2 cable = 4 x 185 mm² core HD22.4 electrical cable with EPR insulation, PO sheath and 64-80 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

Firebreak Batt: Service Penetration Seals in Floors								
Substrate	Minimum Substrate Thickness (mm)	Maximum Opening Size (mm)	Penetrating Services	Seal Position	Minimum Seal Depth (mm)	Additional seal materials	Fire Resistance (mins.)	
							E	EI
Concrete	150	550 x 330	Type B Electrical cables up to 21 mm Ø (single, on steel ladder up to 150 mm wide)	Top	50	None	60	30
			Type C1 Electrical cables up to 47 mm Ø (single, on steel ladder up to 150 mm wide)					
			Type C2 Electrical cables up to 61 mm Ø (single, on steel ladder up to 150 mm wide)					
			Type C3 Electrical cables up to 42 mm Ø (single, on steel ladder up to 150 mm wide)					
			Unsheathed wires up to 24 mm diameter					
		600 x 600	Type B Electrical cables up to 21 mm Ø (single, on steel ladder up to 150 mm wide)		50 x 2		120	60
			Type C1 Electrical cables up to 47 mm Ø (single, on steel ladder up to 150 mm wide)					
			Type C2 Electrical cables up to 61 mm Ø (single, on steel ladder up to 150 mm wide)					
			Type C3 Electrical cables up to 42 mm Ø (single, on steel ladder up to 150 mm wide)					
			Unsheathed wires up to 24 mm diameter					
			120	30				

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



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Firebreak Batt: Service Penetration Seals in Floors								
Substrate	Minimum Substrate Thickness (mm)	Maximum Opening Size (mm)	Penetrating Services	Seal Position	Minimum Seal Depth (mm)	Additional seal materials	Fire Resistance (mins.)	
							E	EI
Concrete	150	400 x 400	Steel pipe 220 mm diameter / 6.9-14.2 mm wall	Pattress to soffit	50	None	60	15
			Steel pipe 220 mm diameter / 6.0-14.2 mm wall, insulated with Foil faced glass wool insulation 50mm thick CS			2No. layers 4 x 60 mm Nullifire FP302	90	45
		650 x 400	Steel pipe 160 mm diameter / 6.0-14.2 mm wall			None	120	60
			Cat 5 electrical cables (bundle)				120	120
			Fire alarm cables (bundle)			100 mm long Firebreak Batt cladding to the underside of the seal	240	180
		400 x 400	95mm x 45mm European Redwood timber section					
		1400 x 500	Electrical cables up to 80 mm Ø (single, bundled and on steel trays/ladders up to 500 mm wide)	Top	50 x 2	Batt Box*	120	90
			Telecom cable up to 21mm Ø in tied bundles up to 100mm Ø				120	120
			Unsheathed wires up to 24 mm diameter				120	120
			Steel pipes 220 mm diameter by 8.0-14.2 mm wall				120	20

* Batt box 150 mm deep (flush to the bottom of the seal) is formed within the primary seal, comprising a lining 50 mm thick Firebreak Batt infilled with stone wool mineral fibre 64 kg/m3 coated on both faces with 3 mm Firebreak 22.

CS = Continuous Sustained



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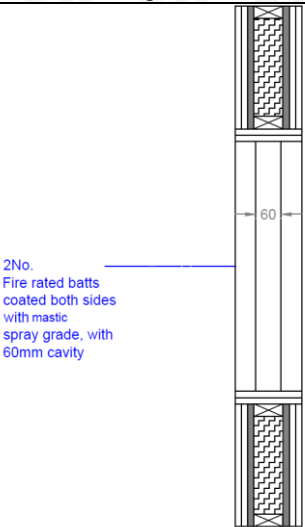
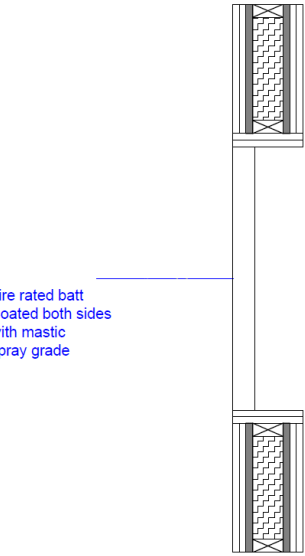
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Air Permeability – Firebreak Batt			
Product tested	Firebreak Batt with perimeter sealed with Firebreak 22		
Summary of testing procedure			Result
	Pressure (Pa)	Leakage (m ³ /h)	Leakage (m ³ /m ² /h)
Results under negative chamber pressure	50	0.5	0.7
	100	0.5	0.7
	150	0.5	0.7
	200	0.5	0.7
	250	0.6	0.8
	300	0.6	0.8
	450	0.7	0.9
	500	1.0	1.4
	600	1.1	1.5
Results under positive chamber pressure	50	0.2	0.3
	100	0.4	0.5
	150	0.6	0.8
	200	0.6	0.8
	250	0.7	0.9
	300	0.8	1.1
	450	1.1	1.5
	500	1.1	1.5
	600	1.4	1.9



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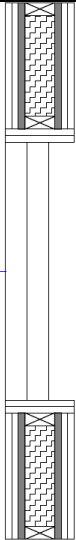
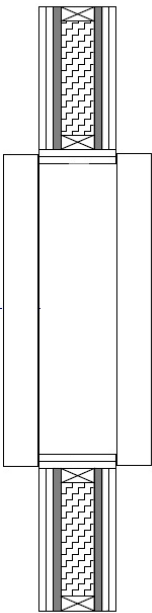
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Airborne sound insulation– Firebreak Batt	
Configuration	Performance
 <p>2No. Fire rated batts coated both sides with mastic spray grade, with 60mm cavity</p> <p>60</p> <p>Fire rated batt Coated both sides with mastic spray grade</p>	<p>Dnew - 53 (-1;-5) dB Rw (1.87m2) - 40 (-4;-7) dB Rw (14.2m2) - 49 (-4;-7) dB</p>
 <p>Fire rated batt Coated both sides with mastic spray grade</p> <p>Fire rated batt Coated both sides with mastic spray grade</p>	<p>Dnew - 31 (-1;-3) dB Rw (1.87m2) - 24 (-1;3) dB Rw (14.2m2) - 33 (-1;-3) dB</p>



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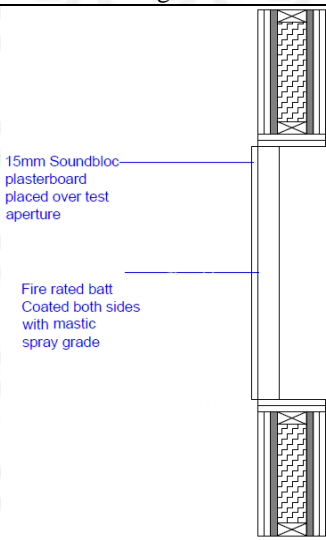
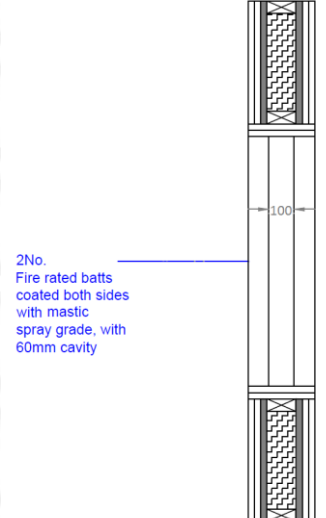
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Configuration	Performance
 <p>2No. Fire rated batts coated both sides with mastic spray grade, pushed together</p>	<p>Dnew - 39 (-1;-4) dB Rw (1.87m2) - 32 (-2;-4) dB Rw (14.2m2) - 42 (-2;-4) dB</p>
 <p>2No. Fire rated batts Face fixed on source and receive room</p>	<p>Dnew - 39 (-1;-4) dB Rw (1.87m2) - 32 (-2;-4) dB Rw (14.2m2) - 42 (-2;-4) dB</p>



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Configuration	Performance
 <p>15mm Soundbloc plasterboard placed over test aperture</p> <p>Fire rated batt Coated both sides with mastic spray grade</p>	<p>Dnew - 26 (0;-1) dB Rw (1.87m²) - 46 (-1;-6) dB Rw (14.2m²) - 55 (-1;-6) dB</p>
 <p>2No. Fire rated batts coated both sides with mastic spray grade, with 60mm cavity</p>	<p>Dnew - 50 (-1;-5) dB Rw (wall area) - 51 (-2;-6) dB Rw (specimen area 0.6 m²) - 38 (-1;-5) dB</p> <p>Dnew - 57 (-2;-9) dB Rw (wall area) - 58 (-1;-5) dB Rw (specimen area 0.3 m²) - 42 (-2;-9) dB</p>



Appendix UL-EU Certificate

Certification Mark	UL-EU mark
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The UL-EU Mark, as displayed below, shall appear on certified products only. Minimum size is not specified, as long as the Mark is legible. The following is suggested.



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.

The UL-EU Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or nameplate, the Manufacturer's name or trademark along with a model number are also required on that same label or nameplate. If cast, stamped or molded, the Manufacturer's name or trademark and model number shall also appear elsewhere on the product.

All content shall be in accordance with the details provided on this UL-EU Certificate.

PROCUREMENT

The Production site may reproduce the Mark or obtain it from a UL authorized supplier. The list of UL authorized suppliers can be found on UL's online directory at www.ul.com.

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