UL-EU CERTIFICATE

Certificate No.	UL-EU-00771-CPR
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Date of Issue	2015-04-19
Revised	2018-06-15
Certificate Holder	FSi Ltd Westminster Industrial Estate Tamworth Rd Measham DE12 7DS United Kingdom
Manufacturer	A/008
Certified Product Type	Fire Stop – Coated Board
Product Trade Name	Stopseal 50 Coated Board / Stopseal 60 Coated Board
Trademark	N/A
Rating/Classification	See Appendix
Harmonised Technical Specifications	ETAG 026-2 / EN 13501-2 / EN 13501-3
Expiry date	2025-04-19

UL EU

UKAS PRODUCT CERTIFICATION 4705

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shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.

Appendix UL-EU CERTIFICATE

This certificate relates to the use of Stopseal 50 Coated Board / Stopseal 60 Coated Board for fire stopping where services penetrate floors and walls. The detailed scope is given in pages 3 to 21 of this Certificate. This shows the thickness and acceptable dimensions, substrates and orientations required to provide fire resistance periods of up to 120 minutes (EI 120).

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 1366-3: 2009 & EN 1366-1: 2000
iii) Classification in accordance with EN 13501-2 & EN 13501-3
iv) Durability and Servicability as defined in ETAG 026-2

The durability class of Flexi Coat is Z_1 - intended for use at internal conditions with high humidity, excluding temperatures below 0°C

VOC test report – Indoor Air Comfort GOLD® referenced – eurofins 392-2017-00008801_A_EN, is also available.

Fire resisting ducts penetrating the Stopseal Coated board shall be classified (EN13501-3) for the required performance period, in addition to the details given on page 21.

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Product-type: Coated board	Intended use: Penetration Seal	
Basic requirement for construction work	Basic Requirement	Basic requirement for construction work
BWR 1 Mechanical resistance and stability		
-	None	-
BWR 2 Safety in case of fire		
EN 13501-1	Reaction to fire	Class E
EN 13501-2	Resistance to fire	See page 7
BWR 3 Hygiene, health and environment		
EN 1026:2000	Air permeability (material property)	See page 4
ETAG 026-3, Annex C	Water permeability (material property)	No performance determined
Declaration of manufacturer	Release of dangerous substances	Declaration of manufacturer
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	Adhesion	No performance determined
BWR 5 Protection against noise		
EN 10140-2/ EN ISO 717-1	Airborne sound insulation	Rw ($C;C_{tr}$)= 24(-2;-3) and See pages 5&6
EN 10140-3/ EN ISO 717-2	Impact sound insulation	No performance determined
BWR 6 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		
ISO 8339: 2005, ISO 9046: 2004 & ISO 7389: 2003	Durability and serviceability	Z_1
BWR 7 Sustainable use of natural resources		
-	-	No performance determined

No performance determined

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Stopseal 50 Coated Board: Air Permeability according to BS EN 1026				
Pressure (Pa)	**Results under positive chamber pressure**		**Results under negative chamber pressure**	
	Leakage (m^3/h)	**Leakage (m^3/m^2/ h)**	**Leakage (m^3/h)**	**Leakage (m^3/m^2/ h)**
50	0.6	0.8	1.1	1.5
100	1.0	1.4	1.3	1.8
150	2.8	3.9	1.5	2.1
200	3.8	5.3	1.9	2.6
250	4.5	6.3	2.0	2.8
300	5.0	6.9	2.4	3.3
450	5.1	7.1	1.9	2.6
600	6.7	9.3	2.2	3.1

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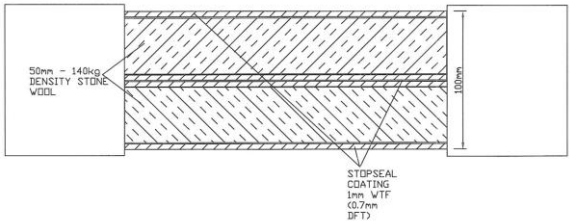
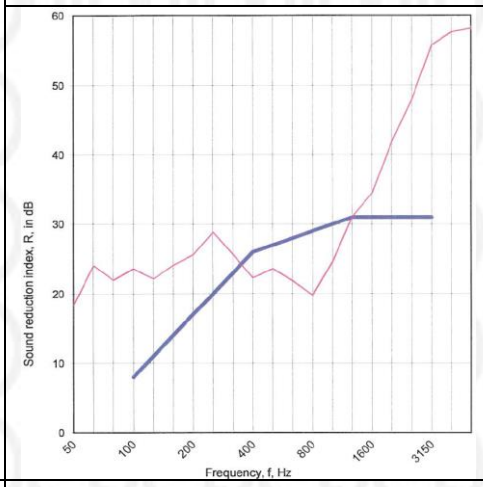
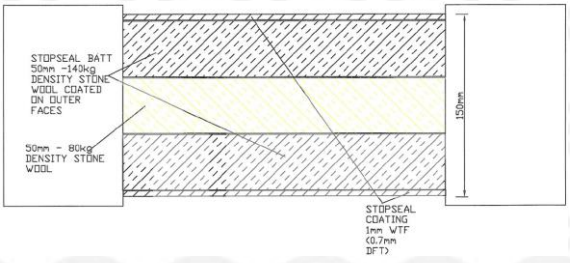
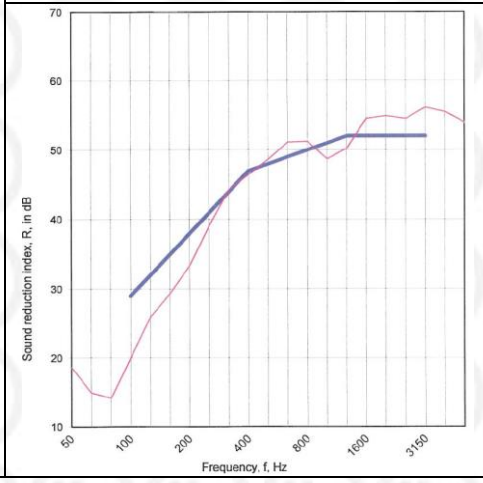
Stopseal 50 Coated Board: Acoustic performance according to BS EN ISO 10140-2:2010		
Configuration	**$R_w(C; C_{tr})$ Specimen only, $1m^2$**	**D_{new} Partition & Specimen, $14.2m^2$**
	27 (0; -2) 	37 (0; -2)
	48 (-3; 16) 	58 (-3; 16)

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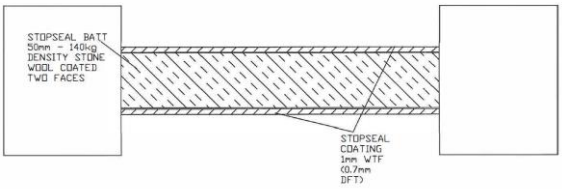
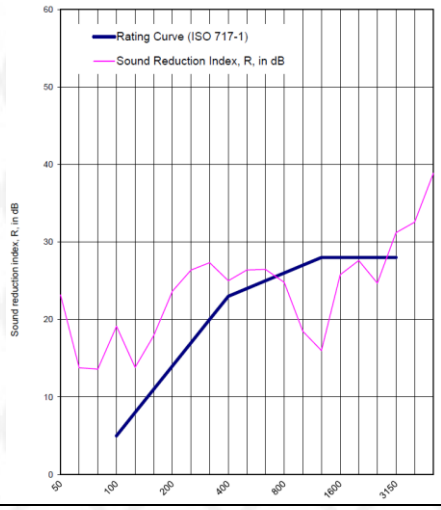
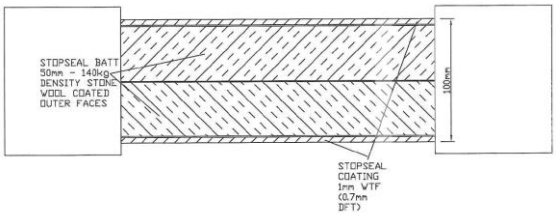
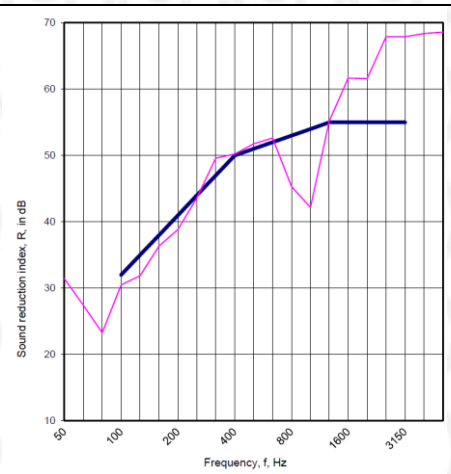
Stopseal 50 Coated Board: Acoustic performance according to BS EN ISO 10140-2:2010		
Configuration	**$R_w(C; C_{tr})$ Specimen only, $1m^2$**	**D_{new} Partition & Specimen, $14.2m^2$**
	24 (-2; -3) 	35 (-2; -4)
	41 (-2; -7) 	51 (-2; -7)

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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Service / Insulation**	Fire Resistance (mins.)	
							E	EI
Drywall/ Masonry/ Concrete wall	100	1200 high x 730 wide	Central	100*	15 mm deep by 15 mm wide annulus FSi HPE Sealant to both faces of the batt seal	Steel or Copper pipe 40 mm diameter and 1.5 – 14.2 mm wall thickness / 20 mm thick foil faced glass wool insulation (min 80 kg/m^3)	90	60
						Steel or Copper pipe 40 - 159 mm diameter and 2.3 – 14.2 mm wall thickness / 30 mm thick foil faced glass wool insulation (min 80 kg/m^3)	60	60
						Steel pipe 40 mm diameter and 1.5 – 14.2 mm wall thickness / 20 mm thick foil faced glass wool insulation (min 80 kg/m^3)	90	60
						Steel pipe 40 - 159 mm diameter and 2.3 – 14.2 mm wall thickness / 30 mm thick foil faced glass wool insulation (min 80 kg/m^3)	60	60
					None	Electrical cables up to 21 mm diameter	60	60
						Electrical cables 22-80 mm diameter	60	45
						Steel cable trays and ladders	60	60
						Telecommunication cables up to 21 mm diameter and in a bundle of up to 100 mm diameter	60	60
						Unsheathed electrical cables up to 17 mm diameter	60	30
						Unsheathed electrical cables 18-24 mm diameter	60	15
						Steel or Copper conduits up to 16 mm diameter	60	15
						Plastic conduits up to 16 mm diameter	60	60
		600 high x 600 wide				Steel or Copper pipe 42-159 mm diameter and 1.2 – 14.2 mm wall thickness / 25 mm thick foil faced glass wool insulation (min 30 kg/m^3)	120	45
						Steel or Copper pipe 42 diameter and 1.0 – 14.2 mm wall thickness / 25 mm thick foil faced glass wool insulation (min 30 kg/m^3)	120	60

* Two layers of 50 mm batt

** Continuous through seal and full length of the pipe

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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Service / Insulation** Min. 0mm between services and 50mm to seal edge	Fire Resistance (mins.)	
							E	EI
Drywall/ Masonry/ Concrete wall	100	1200 high x 730 wide	Central	100*	None	Steel or Copper pipe 42-159 mm diameter and 1.2 – 14.2 mm wall thickness / 40 mm thick foil faced stone wool insulation (min 40 kg/m^3)	45	45
						Steel 42 - 324 mm diameter and 16 mm wall thickness / 40 mm thick foil faced stone wool insulation (min 40 kg/m^3)	45	45
						Steel or Copper pipe 42-159 mm diameter and 1.2 – 14.2 mm wall thickness / 2 mm DFT FSi PST coating	120	45
						Steel pipe 42-324 mm diameter and 14.2 mm wall thickness / 2 mm DFT FSi PST coating	120	45
Substrate	**Minimum Substrate Thickness (mm)**	**Maximum Seal Size (mm)**	**Seal Position**	**Minimum Seal Depth (mm)**	**Incorporated seal**	**Service / Insulation*** Min. 0mm between services and 50mm to seal edge**	**Fire Resistance (mins.)**	
							E	**EI**
Drywall/ Masonry/ Concrete wall	100	1200 high x 750 wide	Central	100*	None	Steel or Copper pipe 42-159 mm diameter and 1.2 – 14.2 mm wall thickness / 13-25 mm thick K Flex ST insulation	120	60
						Steel or Copper pipe 42 mm diameter and 1.0 – 14.2 mm wall thickness / 13-25 mm thick K Flex ST insulation	120	90
						Steel or Copper pipe 42-108 mm diameter and 1.2 – 14.2 mm wall thickness / 25-40 mm thick Kingspan Kooltherm FM insulation	120	60
						Steel or Copper pipe 42 mm diameter and 1.0 – 14.2 mm wall thickness / 25-40 mm thick Kingspan Kooltherm FM insulation	120	90
						Steel or Copper pipe 42 mm diameter and 1.2 – 14.2 mm wall thickness / 50 mm thick glassfibre insulation	120	90

* Two layers of 50 mm batt
** Continuous through the seal and full length of the pipe

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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Service / Insulation	Fire Resistance (mins.)	
							E	EI
Masonry/ Concrete Wall	150	1200 high x 730 wide	Central	100*	None	Electrical cables up to 21 mm diameter insulated with FSi P40/40 stone wool insulation** 40 mm thick, 40 kg/m^3	120	120
						Electrical cables 22-80 mm diameter insulated with FSi P40/40 stone wool insulation** 40 mm thick, 40 kg/m^3	120	90
						Steel cable trays and ladders insulated with FSi P40/40 stone wool insulation** 40 mm thick, 40 kg/m^3	120	120
						Telecommunication cables up to 21 mm diameter and in a bundle of up to 100 mm diameter insulated with FSi P40/40 stone wool insulation** 40 mm thick, 40 kg/m^3	120	120
						Unsheathed electrical cables up to 24 mm diameter insulated with FSi P40/40 stone wool insulation** 40 mm thick, 40 kg/m^3	120	120
		600 high x 600 wide	Any position within wall thickness	50		Steel or Copper pipe 108 mm diameter and 1.5 – 14.2 mm wall thickness / 40 mm thick stone wool insulation (min 140 kg/m^3)***	60	45
			Central			Electrical cables up to 80 mm diameter insulated with 6 mm thick FSi Thermal Defense Wrap min. 300 mm long	60	60
						Steel cable trays and ladders insulated with 6 mm thick FSi Thermal Defense Wrap min. 300 mm long	60	60
						Telecommunication cables up to 21 mm diameter and in a bundle of up to 100 mm diameter insulated with 6 mm thick FSi Thermal Defense Wrap min. 300 mm long	60	60
						Unsheathed electrical cables up to 24 mm diameter insulated with 6 mm thick FSi Thermal Defense Wrap min. 300 mm long	60	60

* Two layers of 50 mm batt
** Interupted at the seal and extending 200 mm from both faces of the seal
*** Interupted at the seal and full length of the pipe

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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Service / Insulation***	Fire Resistance (mins.)	
							E	EI
Drywall/ Masonry/ Concrete Wall	100	1200 high x 750 wide	Patress**, single layer to each face	200**	None	Electrical cables up to 80 mm diameter insulated with FSi P40/40 stone wool insulation 40 mm thick, 40 kg/m^3	120	120
						Steel cable trays and ladders insulated with FSi P40/40 stone wool insulation 40 mm thick, 40 kg/m^3		
						Telecommunication cables up to 21 mm diameter and in a bundle of up to 100 mm diameter insulated with FSi P40/40 stone wool insulation 40 mm thick, 40 kg/m^3		
						Unsheathed electrical cables up to 24 mm diameter insulated with FSi P40/40 stone wool insulation 40 mm thick, 40 kg/m^3		
						Plastic Conduits up to 16 mm diameter insulated with FSi P40/40 stone wool insulation 40 mm thick, 40 kg/m^3		

Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Service / Insulation****	Fire Resistance (mins.)	
							E	EI
Masonry/ Concrete Wall	150	1200 high x 730 wide	Flush to both faces of wall	150*	None	Electrical cables up to 21 mm diameter insulated with FSi P40/40 stone wool insulation 40 mm thick, 40 kg/m^3	120	120
						Electrical cables 22-80 mm diameter insulated with FSi P40/40 stone wool insulation 40 mm thick, 40 kg/m^3	120	90
						Steel cable trays and ladders insulated with FSi P40/40 stone wool insulation 40 mm thick, 40 kg/m^3	120	120
						Telecommunication cables up to 21 mm diameter and in a bundle of up to 100 mm diameter insulated with FSi P40/40 stone wool insulation 40 mm thick, 40 kg/m^3	120	120
						Unsheathed electrical cables up to 24 mm diameter insulated with FSi P40/40 stone wool insulation 40 mm thick, 40 kg/m^3	120	120

* Two layers of 60 mm batt separated by minimum 30 mm
** Two layers of 50 mm batt separated by minimum 100 mm
** Interupted at the seal and extending 300 mm from both faces of the seal
*** Interupted at the seal and extending 200 mm from both faces of the seal

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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Collar ref.	PVC Pipe**	Fire Resistance (mins.)	
								E	EI
Drywall/ Masonry/ Concrete wall	100	1200 high x 730 wide	Flush to both faces of wall	100*	PipeBloc PCP secured to both faces with 80mm steel pig tail screw	32mm	32mm Ø / 1.8mm wall	120	120
						40mm	40mm Ø / 1.8mm wall		
						50mm	50mm Ø / 1.8mm wall		
						55mm	55mm Ø / 1.8-2.3mm wall		
						63mm	63mm Ø / 2.3-3mm wall		
						75mm	75mm Ø / 3.1-4.8mm wall		
						82mm	82mm Ø / 3.1-4.8mm wall		
						90mm	90mm Ø / 4.2-7.4mm wall		
						100mm	100mm Ø / 4.2-7.4mm wall		
						110mm	110mm Ø / 4.2-7.4mm wall		
						125mm	125mm Ø / 6mm wall		
						140mm	140mm Ø / 6.1-7.5mm wall		
						160mm	160mm Ø / 6.2-9.5mm wall		

Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Collar ref.	PP Pipe**	Fire Resistance (mins.)	
								E	EI
Drywall/ Masonry/ Concrete wall	100	1200 high x 730 wide	Flush to both faces of wall	100*	PipeBloc PCP secured to both faces with 80mm steel pig tail screw	32mm	32mm Ø / 2.9mm wall	120	120
						40mm	40mm Ø / 2.9mm wall		
						50mm	50mm Ø / 2.9mm wall		
						55mm	55mm Ø / 2.9-4.4mm wall		
						63mm	63mm Ø / 2.9-4.4mm wall		
						75mm	75mm Ø / 2.8-6.7mm wall		
						82mm	82mm Ø / 2.8-6.7mm wall		
						90mm	90mm Ø / 2.7-10mm wall		
						100mm	100mm Ø / 2.7-10mm wall		
						110mm	110mm Ø / 4.2-7.4mm wall		
						125mm	125mm Ø / 3.1mm wall		
						140mm	140mm Ø / 3.5-8mm wall		
						160mm	160mm Ø / 4-14.6mm wall		

* Two layers of 50 mm batt
** Minimum distance between services 0 mm and 50 mm to edges of seal

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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Collar ref.	PE Pipe**	Fire Resistance (mins.)	
								E	EI
Drywall/ Masonry/ Concrete wall	100	1200 high x 730 wide	Flush to both faces of wall	100*	PipeBloc PCP secured to both faces with 80mm steel pig tail screw	32mm	32mm Ø / 2.9mm wall	120	120
						40mm	40mm Ø / 2.9mm wall		
						50mm	50mm Ø / 2.9mm wall		
						55mm	55mm Ø / 2.9-4.4mm wall		
						63mm	63mm Ø / 2.9-4.4mm wall		
						75mm	75mm Ø / 2.8-6.7mm wall		
						82mm	82mm Ø / 2.8-6.7mm wall		
						90mm	90mm Ø / 2.7-10mm wall		
						100mm	100mm Ø / 2.7-10mm wall		
						110mm	110mm Ø / 4.2-7.4mm wall		
						125mm	125mm Ø / 3.1mm wall		
						140mm	140mm Ø / 3.5-5.8mm wall		
						160mm	160mm Ø / 4.9-9.5mm wall		

Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Uponor MLC (Multi-layer Composite) Pipe	Fire Resistance (mins.)	
							E	EI
Masonry/ Concrete wall	150	1100 high x 750 wide	Central, back to back	100*	Pyropro HPE, 20mm annulus and full depth of the Stopseal batt seal	40mm Ø / 4mm wall	120	120
						50mm Ø / 4.5mm wall		
						63mm Ø / 6mm wall		
						75mm Ø / 7.5mm wall		
						90mm Ø / 8.5mm wall		
						110mm Ø 10mm wall		

* Two layers of 50 mm batt / 100mm separation
** Min. Separation between services 0 mm, and 50 mm to edges of seal

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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Wrap ref.	Insulated*** PVC Pipe****	Fire Resistance (mins.)	
								E	EI
Drywall/ Masonry/ Concrete wall	100	1200 high x 730 wide	Flush to both faces of wall	100*	PipeBloc EL secured internally within both faces of StopSeal Batt	3x2mm	40mm Ø / 1.9mm wall with 25mm Kingspan Kooltherm FM	120	90
						3x2mm	40mm Ø / 3mm wall with 15mm Kingspan Kooltherm FM	120	90
						5x2mm	110mm Ø / 4.2mm wall with 25mm Kingspan Kooltherm FM	120	120
						5x2mm	110mm Ø / 6.6mm wall with 20mm Kingspan Kooltherm FM	120	90
						3x2mm	40mm Ø / 1.9mm wall with 32mm Armaflex Class O	120	90
						3x2mm	40mm Ø / 3mm wall with 9mm Armaflex Class O	120	90
						5x2mm	110mm Ø / 4.2mm wall with 32mm Armaflex Class O	120	120
						5x2mm	110mm Ø / 6.6mm wall with 13mm Armaflex Class O	120	90

Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Wrap ref.	Insulated*** Steel or Copper Pipe	Fire Resistance (mins.)	
								E	EI
Drywall/ Masonry/ Concrete wall	100	1200 high x 750 wide	Patress**, single layer to each face	200*	PipeBloc EL secured internally within both faces of StopSeal Batt	2x2mm	42-159mm Ø / 1.2mm wall with 13-25mm K Flex ST	120	60
							42-159mm Ø / 1.2-14.2mm wall with 25mm K Flex ST	120	90
							42mm Ø / 1-14.2mm wall with 13-25mm K Flex ST	120	120
							42-108mm Ø / 1.2-14.2mm wall with 25-40mm Kingspan Kooltherm FM	120	90
							42mm Ø / 1-14.2mm wall with 25-40mm Kingspan Kooltherm FM	120	120
							42mm Ø / 1.2-14.2mm wall with 50mm glassfibre min. 30 kg/m^3	120	90
		600 x 600					42-159mm Ø / 1.2-14.2mm wall with 25mm foil faced glassfibre min. 30 kg/m^3	120	90
							42 Ø / 1-14.2mm wall with 25mm foil faced glassfibre min. 30 kg/m^3	120	120

* Two layers of 50 mm batt / 100mm separation
** Patress installation of Stopseal Coated Batt. The batts are installed in horizontal rows and fixed in minimum 2 vertical edges. Overlap of batts to wall min. 100mm. Batts mechanically fixed to the wall with min. 6 x 8 mm steel screws and steel retaining washer at 300 mm centres.
*** Continuous through the seal and full length of the pipe
**** Min. Separation between services 0 mm, and 50 mm to edges of seal

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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Collar ref.	PE Pipe***	Fire Resistance (mins.)	
								E	EI
Drywall/ Masonry/ Concrete wall	100	1200 high x 730 wide	Patress**, single layer to each face	200*	PipeBloc PCP secured to both faces with 80mm steel pig tail screw	32mm	32mm Ø / 2.9mm wall	120	120
						40mm	40mm Ø / 2.9mm wall		
						50mm	50mm Ø / 2.9mm wall		
						55mm	55mm Ø / 2.9-4.4mm wall		
						63mm	63mm Ø / 2.9-4.4mm wall		
						75mm	75mm Ø / 2.8-6.7mm wall		
						82mm	82mm Ø / 2.8-6.7mm wall		
						90mm	90mm Ø / 2.7-10mm wall		
						100mm	100mm Ø / 2.7-10mm wall		
						110mm	110mm Ø / 4.2-7.4mm wall		
						125mm	125mm Ø / 3.1mm wall		
						140mm	140mm Ø / 3.5-5.8mm wall		
						160mm	160mm Ø / 4.9-9.5mm wall		

Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Uponor MLC (Multi-layer Composite) Pipe	Fire Resistance (mins.)	
							E	EI
Masonry/ Concrete wall	150	1100 high x 750 wide	Patress**, single layer to each face	250*	Pyropro HPE, 20mm annulus and full depth of the Stopseal batt seal	40mm Ø / 4mm wall	45	30
						50mm Ø / 4.5mm wall		
						63mm Ø / 6mm wall		
						75mm Ø / 7.5mm wall		
						90mm Ø / 8.5mm wall		
						110mm Ø 10mm wall		

* Two layers of 50 mm batt / 100 or 150mm separation
** Patress installation of Stopseal Coated Batt. The batts are installed in horizontal rows and fixed in minimum 2 vertical edges. Overlap of batts to wall min. 100mm. Batts mechanically fixed to the wall with min. 6 x 8 mm steel screws and steel retaining washer at 300 mm centres.
*** Min. Separation between services 0 mm, and 50 mm to edges of seal

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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Collar ref.	PP Pipe***	Fire Resistance (mins.)	
								E	EI
Drywall/ Masonry/ Concrete wall	100	1200 high x 730 wide	Patress** , single layer to each face	200*	PipeBloc PCP secured to both faces with 80mm steel pig tail screw	32mm	32mm Ø / 2.9mm wall	120	120
						40mm	40mm Ø / 2.9mm wall		
						50mm	50mm Ø / 2.9mm wall		
						55mm	55mm Ø / 2.9-4.4mm wall		
						63mm	63mm Ø / 2.9-4.4mm wall		
						75mm	75mm Ø / 2.8-6.7mm wall		
						82mm	82mm Ø / 2.8-6.7mm wall		
						90mm	90mm Ø / 2.7-10mm wall		
						100mm	100mm Ø / 2.7-10mm wall		
						110mm	110mm Ø / 4.2-7.4mm wall		
						125mm	125mm Ø / 3.1mm wall		
						140mm	140mm Ø / 3.5-8mm wall		
						160mm	160mm Ø / 4-14.6mm wall		

Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Collar ref.	PVC Pipe***	Fire Resistance (mins.)	
								E	EI
Drywall/ Masonry/ Concrete wall	100	1200 high x 730 wide	Patress** , single layer to each face	200*	PipeBloc PCP secured to both faces with 80mm steel pig tail screw	32mm	32mm Ø / 1.8mm wall	120	120
						40mm	40mm Ø / 1.8mm wall		
						50mm	50mm Ø / 1.8mm wall		
						55mm	55mm Ø / 1.8-2.3mm wall		
						63mm	63mm Ø / 2.3-3mm wall		
						75mm	75mm Ø / 3.1-4.8mm wall		
						82mm	82mm Ø / 3.1-4.8mm wall		
						90mm	90mm Ø / 4.2-7.4mm wall		
						100mm	100mm Ø / 4.2-7.4mm wall		
						110mm	110mm Ø / 4.2-7.4mm wall		
						125mm	125mm Ø / 6mm wall		
						140mm	140mm Ø / 6.1-7.5mm wall		
						160mm	160mm Ø / 6.2-9.5mm wall		

* Two layers of 50 mm batt / 100 or 150mm separation
** Patress installation of Stopseal Coated Batt. The batts are installed in horizontal rows and fixed in minimum 2 vertical edges. Overlap of batts to wall min. 100mm. Batts mechanically fixed to the wall with min. 6 x 8 mm steel screws and steel retaining washer at 300 mm centres.
*** Min. Separation between services 0 mm, and 50 mm to edges of seal

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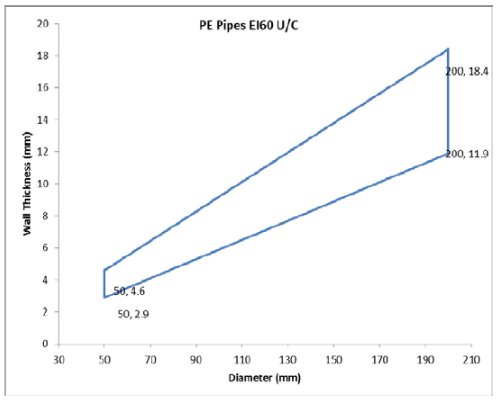
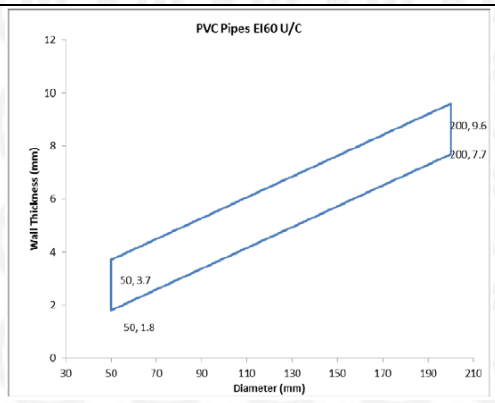
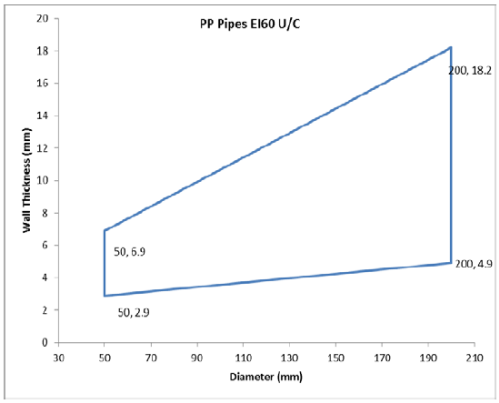
Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Wrap size WxT (mm)	Pipe Diameter***	Fire Resistance (mins.)	
								E	EI
Drywall/ Masonry/ Concrete wall	100	600 x 600	Patress** , single layer to each face	200*	PipeBloc PWP secured internally within both faces of Stopseal Coated Batt	40x2	32mm Ø – 50mm Ø	See diagrams below	
						40x4	51mm Ø – 82mm Ø		
						40x6	83mm Ø – 115mm Ø		
						40x8	116mm Ø – 160mm Ø		
						40x10	161mm Ø – 200mm Ø		
						40x12	201mm Ø – 250mm Ø		

* Two layers of 50 mm batt / 100 or 150mm separation
** Patress installation of Stopseal Coated Batt. The batts are installed in horizontal rows and fixed in minimum 2 vertical edges. Overlap of batts to wall min. 100mm. Batts mechanically fixed to the wall with min. 6 x 8 mm steel screws and steel retaining washer at 300 mm centres.
*** Min. Separation between services 0 mm, and 50 mm to edges of seal







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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Service / Insulation	Fire Resistance (mins.)	
							E	EI
Masonry/ Concrete Wall	150	600 x 600	Central	50*	None	Electrical cables up to 80 mm diameter insulated with FSi TDW**	60	60
						Steel cable trays and ladders insulated with FSi TDW**	60	60
						Telecommunication cables up to 21 mm diameter and in a bundle of up to 100 mm diameter insulated with FSi TDW**	60	60
						Unsheathed electrical cables up to 24 mm diameter insulated with FSi TDW**	60	60
						Steel or copper pipe 108mm Ø, 1.5-14.2mm wall with 40mm stone wool insulation 40kg/m^3 continuous through the seal and full length of the pipe	60	45
		1100 high by 730 wide				Steel or copper pipe 42mm Ø, 1.2-14.2mm wall with 40mm stone wool insulation 40kg/m^3 interrupted at the seal and 300 mm long on each face	45	45
						Steel or copper pipe 42-159mm Ø, 2-14.2mm wall with 40mm stone wool insulation 40kg/m^3 interrupted at the seal and 300 mm long on each face	45	15
		1100 high by 750 wide				500mm wide perforated steel cable tray coated with 2mm DFT PST for 300mm to both faces	30	30
						Electrical cables up to 21 mm diameter coated with 2mm DFT PST for 300mm to both faces	45	45
						1 off 'C2' Cable coated with 2mm DFT PST for 300mm to both faces	45	45
						1 off 'C2' Cable coated with 2mm DFT PST for 300mm to both faces	45	45
						1 off 'C2' Cable coated with 2mm DFT PST for 300mm to both faces	45	45
				100***	Pyropro HPE, 20mm annulus and full depth of the Stopseal batt seal	500mm wide perforated steel cable tray coated with 2mm DFT PST for 300mm to both faces	120	120
						Electrical cables up to 21 mm diameter coated with 2mm DFT PST for 300mm to both faces	120	120
						1 off 'C2' Cable coated with 2mm DFT PST for 300mm to both faces	120	120
						1 off 'C2' Cable coated with 2mm DFT PST for 300mm to both faces	120	90
						1 off 'C2' Cable coated with 2mm DFT PST for 300mm to both faces	120	120

* One layer of 50 mm batt
** Thermal Defense Wrap, 6mm thick, interupted at the seal and extending 300 mm from both faces of the seal
*** Two layers of 50 mm batt

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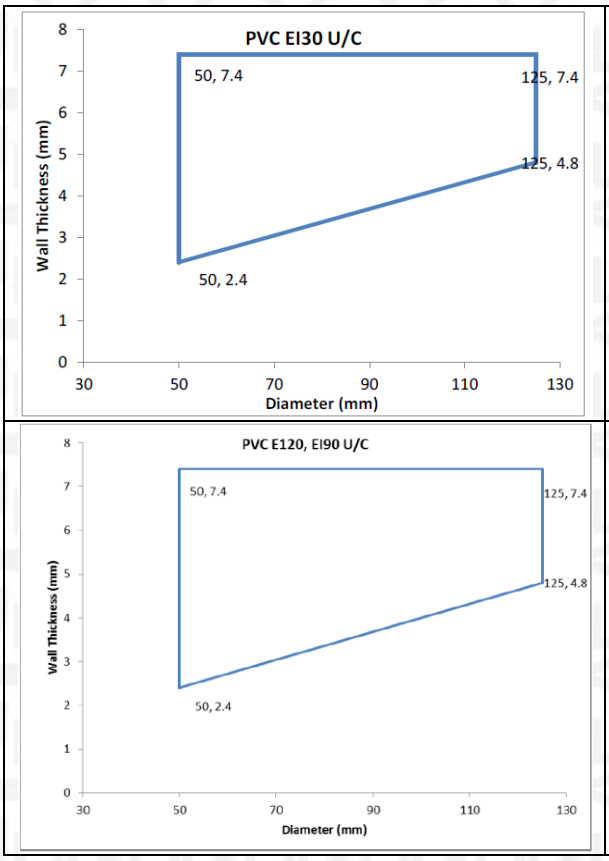
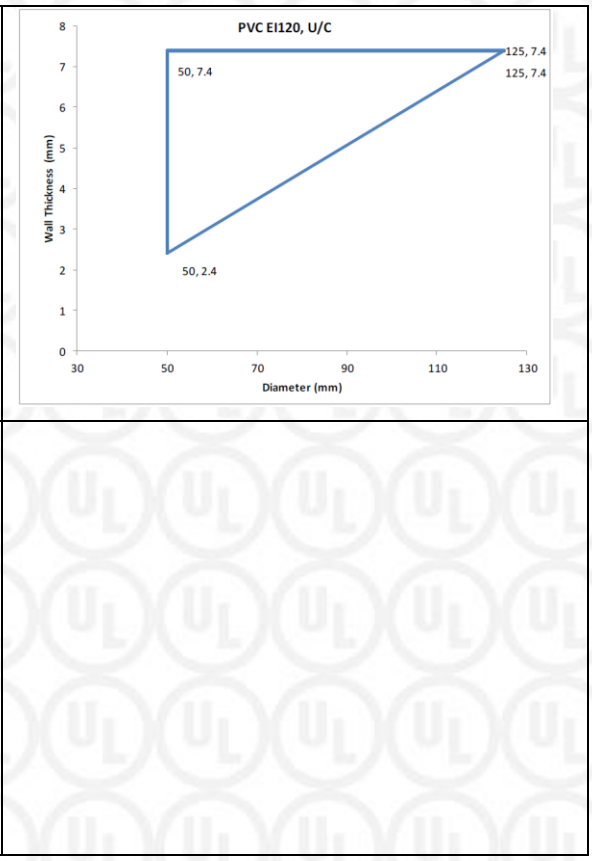
Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Service / Insulation	Fire Resistance (mins.)	
							E	EI
Masonry/ Concrete Wall	150	1100 high by 750 wide	Central	100*	Pyropro HPE, 20mm annulus and full depth of the Stopseal batt seal	PVC Pipe 50mm diameter / 2.4-7.4mm wall	45**	45**
					Pyropro HPE, 20mm annulus and 20mm depth to both faces of the Stopseal batt seal	PVC Pipe	See diagram below	
		1100 high by 750 wide			None	Steel or Copper Pipe 42mm diameter / 1.2-14.2mm wall, insulated with 40mm stone wool min. 40kg/m^3***	120	60
						Steel or Copper Pipe 42-159mm diameter / 2-14.2mm wall, insulated with 40mm stone wool min. 40kg/m^3***	120	30

* Two layers of 50 mm batt
** And as per diagram below
*** interupted at the seal and extending 300 mm from both faces of the seal





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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Service / Insulation	Fire Resistance (mins.)	
							E	EI
Concrete Floor	150	1600 x 700	Flush to top of floor	50	None	None	60	60
		1100 x 700	Central, back to back	50*	None	Electrical cables up to 80 mm diameter insulated with 40mm stone wool insulation 40kg/m^3 **	60	60
						Steel cable trays and ladders insulated with 40mm stone wool insulation 40kg/m^3 **	60	60
						Telecommunication cables up to 21 mm diameter and in a bundle of up to 100 mm diameter insulated with 40mm stone wool insulation 40kg/m^3 **	60	60
						Unsheathed electrical cables up to 17 mm diameter insulated with 40mm stone wool insulation 40kg/m^3 **	60	60
						Unsheathed electrical cables up to 18-24 mm diameter insulated with 40mm stone wool insulation 40kg/m^3 **	60	60
						Steel or Copper conduits up to 16mm diameter insulated with 40mm stone wool insulation 40kg/m^3 **	60	60
						Plastic conduits up to 16 mm diameter insulated with 40mm stone wool insulation 40kg/m^3 **	60	60
						Steel or copper pipe 42mm Ø, 1.2-14.2mm wall insulated with 40mm stone wool insulation 40kg/m^3 **	120	120
						Steel or copper pipe 42-159mm Ø, 2-14.2mm wall insulated with 40mm stone wool insulation 40kg/m^3 **	120	30
					Pyropro HPE, 20mm annulus and full depth of the Stopseal batt seal	500mm wide perforated steel cable tray coated with 2mm DFT PST for 300mm to both faces	60	60
						Electrical cables up to 21 mm diameter coated with 2mm DFT PST for 300mm to both faces	60	60
						1 off 'C1' Cable coated with 2mm DFT PST for 300mm to both faces	60	60
						1 off 'C2' Cable coated with 2mm DFT PST for 300mm to both faces	60	60
						1 off 'C3' Cable coated with 2mm DFT PST for 300mm to both faces	60	60

* Two layers of 50 mm batt
** Interupted at the seal and extending 300 mm from both faces of the seal

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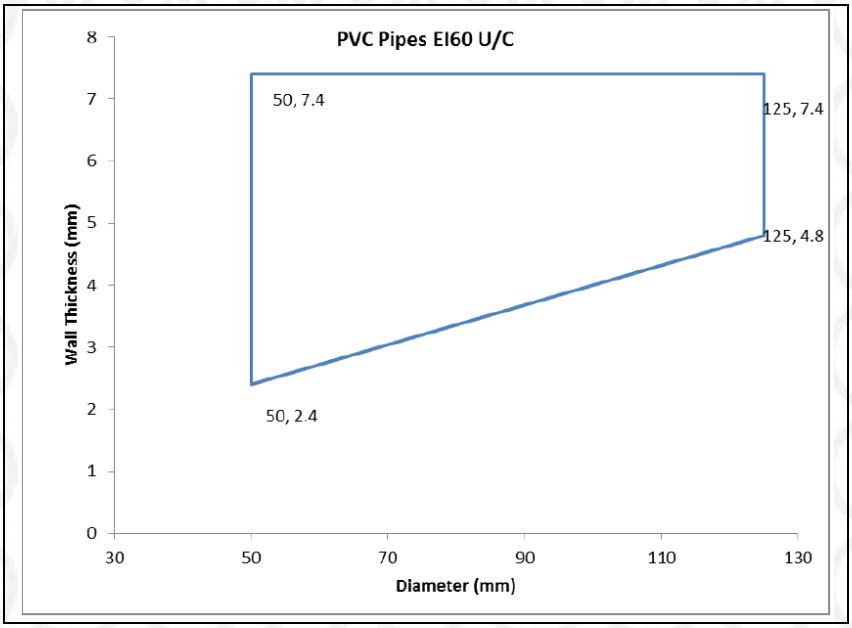
Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	Uponor MLC (Multi-layer Composite) Pipe	Fire Resistance (mins.)	
							E	EI
Concrete floor	150	1100 x 750	Central, back to back	100*	Pyropro HPE, 20mm annulus and full depth of the Stopseal batt seal	40mm Ø / 4mm wall 50mm Ø / 4.5mm wall 63mm Ø / 6mm wall 75mm Ø / 7.5mm wall 90mm Ø / 8.5mm wall 110mm Ø 10mm wall	60	60

Substrate	Minimum Substrate Thickness (mm)	Maximum Seal Size (mm)	Seal Position	Minimum Seal Depth (mm)	Incorporated seal	PVC Pipe	Fire Resistance (mins.)	
							E	EI
Concrete floor	150	1100 x 750	Central, back to back	100*	Pyropro HPE, 20mm annulus and 25mm depth to both faces of the Stopseal batt seal	See diagram below		

* Two layers of 50 mm



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Substrate	Minimum Substrate Thickness (mm)	Maximum Seal width (mm)	Minimum Seal Depth (mm)	Duct A / Duct B	Duct Specification (Duct must be classified in accordance with EN 13501-3 for the required period)	Fire Resistance (mins.)	
						E	S
Drywall/ Concrete/ Masonry wall	100	100	200*	A	Uninsulated 1.0mm GMS steel, rectangular duct, maximum dimensions 1250 mm wide by 1000 mm high.	60	120
				B		120	-
Concrete floor	150	250	275**	A		120	120
				B		120	-

* 4 layers, outer layers overlapped
** 50 mm Stopseal Batt/100 mm Silverseal HS Compound/125 mm Stopseal Batt

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 Certificate Manufacturer's name or trademark and model number shall also appear elsewhere on the product.

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