### **UL-EU CERTIFICATE**

Certificate No. UL-EU-00500-CPR

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Date of Issue 2014-04-25

Revision 2020-11-18

Certificate Holder FSi Limited

Westminster Industrial Estate

Tamworth Road

Measham DE12 7DS

Manufacturer As above

Certified Product Type Fire Stop - Sealant Pyrocoustic®

**Trademark** 



Rating/Classification See Appendix

Harmonised Technical Specifications EAD 350454-00-1104, September 2017/ EAD 350141-00-

1106, September 2017 / EN 13501-2

Supporting Documentation ETA 20/0368, ETA 20/0367, EC – CERTIFICATE OF

CONSTANCY OF PERFORMANCE - 0843 - CPR - 0583,

Classification Report No. 4789433707

Additional information N/A

**Expiry date** 2024-04-23





Authorized Certification Decision Maker 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shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.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 Pyrocoustic<sup>®</sup> 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 44 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) ETA 20/0367 & ETA 20/0368
- ii) EC CERTIFICATE OF CONSTANCY OF PERFORMANCE 0843 CPR 0583
- iii) Classification Report No. 4789433707
- iv) Inspection and surveillance of factory production control by UL
- v) Fire resistance test data in accordance with EN 1366-3: 2009 and 1366-4: 2006
- vi) Classification in accordance with EN 13501-2
- vii) Durability and Servicability as defined in EAD 350454-00-1104 and EAD 350141-00-1106

The movement capability of Pyrocoustic<sup>®</sup> joint seals is restricted to  $\leq 7.5\%$  unless specifically stated within the tables below

The durability class of Pyrocoustic<sup>®</sup> is Type X - Intended for use in conditions exposed to weathering and all lower classes



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Assessment method	Essential characteristic	Product Performance
	BWR 2 Safety in case of fire	XXX
EN 13501-1	Reaction to fire	No performance determined
EN 13501-2	Resistance to fire	See pages 6 - 44
	BWR 3 Hygiene, health and environment	
Declaration of manufacturer & EN 16516	Content, emission and/or release of dangerous substances	Use categories: IA2 Declaration of manufacturer
EN 1026:2000	Air permeability (material property)	See page 4
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	7.5P*
EAD 350141-00-1106, Clause 2.2.12	Durability	Type X
EAD 350141-00-1106, Clause 2.2.13	Movement capacity	See pages 13, 14, 21, 22, 26 & 27
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
A/II. VII. VII. VII.	BWR 5 Protection against noise	VII. VII. VII.
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	Rw(C;Ctr)= 63 (-1;-7) dB^
В	WR 6 Energy economy and heat retention	
EN 12664, EN 12667, EN 12939, EN ISO 8990, EN ISO 6946, 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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Pyrocoustic®: Air Permeability according to BS EN 1026					
Duogguno (Do)	Results under positive chamber pressure		Results under negative chamber pressu		
Pressure (Pa)	Leakage (m³/h)	Leakage (m³/m²/ h)	Leakage (m³/h)	Leakage (m³/m²/ h)	
50	0.0	0.0	0.0	0.0	
100	0.0	0.0	0.0	0.0	
150	0.0	0.0	0.1	2.8	
200	0.0	0.0	0.1	2.8	
250	0.0	0.0	0.1	2.8	
300	0.0	0.0	0.0	0.0	
450	0.1	2.8	0.1	2.8	
600	0.1	2.8	0.1	2.8	

Pyrocoustic®: Analytical VOC Results						
Solid content % mass	Water content, % mass	Exempt compounds, % mass	VOC less water less exempt compounds, g/l	VOC limit g/l		
76.8	2**	0***	350	750*		

<sup>\*</sup> VOC limit for other sealants



<sup>\*\*</sup> Given by client

<sup>\*\*\*</sup> No information about exempt compounds. Set to zero.

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Pyrocoustic	Pyrocoustic®: Acoustic performance according to BS EN ISO 10140-2:2010					
Configuration	R <sub>w</sub> (C; C <sub>tr</sub> ) Specimen only, 1m <sup>2</sup>	R <sub>w</sub> (C; C <sub>tr</sub> ) Partition & Specimen, 14.2m <sup>2</sup>	D <sub>new</sub> Partition & Specimen, 14.2m <sup>2</sup>			
PCPC.	51 (-1; -6)	63 (-1; -7)	61 (-1; -6)			
Pyrocoustic® Sealant on source room side of wall, 15mm deep x 60mm wide x 2000mm high, with 55mm deep Stonewool (60kg/m³)	TO  60  50  50  60  50  60  60  60  60  60	Rating Curve (ISO 717-1) — Sound Reduction Index, R, in dB	To 60 60 60 60 60 60 60 60 60 60 60 60 60			
Pyrocoustic® Sealant on source room side of wall, 25mm deep x 60mm wide x 2000mm high, with 55mm deep Stonewool (60kg/m³)	51 (-1; -6)	63 (-1; -7)	61 (-1; -6)			



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### **Linear Joint Seals**

### Rigid Walls Minimum Thickness 100mm

Single sided linear joint in wall

Concrete or masonry walls ≥100mm with a density of ≥650kg/m<sup>3</sup>

# 

### Key

- 1. Pyrocoustic® Sealant Installed Either Side of Wall
- 2. Backing Material
- 3. Rigid Wall

Substrate	Depth (mm)	Backing Material	Classification
	25		E 120 – V – X – F – W 00 to W 50, EI 60 – V – X – F – W 00 to W 50
Concrete / masonry	2:1 ratio (width:depth) & Min. 10	PE backing rod, glass wool, stone wool or ceramic wool	E 120 – V – X – F – W 00 to W 50, EI 45 – V – X – F – W 00 to W 50



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Min. 10

Single sided linear joint in steel faced wall

Steel - Concrete or masonry walls ≥100mm with a density of ≥650kg/m<sup>3</sup> 1. Pyrocoustic® Sealant Installed Either Side of Wall 3. 2. Backing Material 3. Rigid Wall 4. Steel 2. V Substrate Depth (mm) Classification **Backing Material** E 120 - V - X - F - W 00 to W 20,10 EI 20 - V - X - F - W 00 to W 20 PE backing rod, glass wool, Concrete or masonry / steel 2:1 ratio stone wool or ceramic wool E 45 - V - X - F - W 00 to W 50, (width:depth) & EI 20 - V - X - F - W 00 to W 50

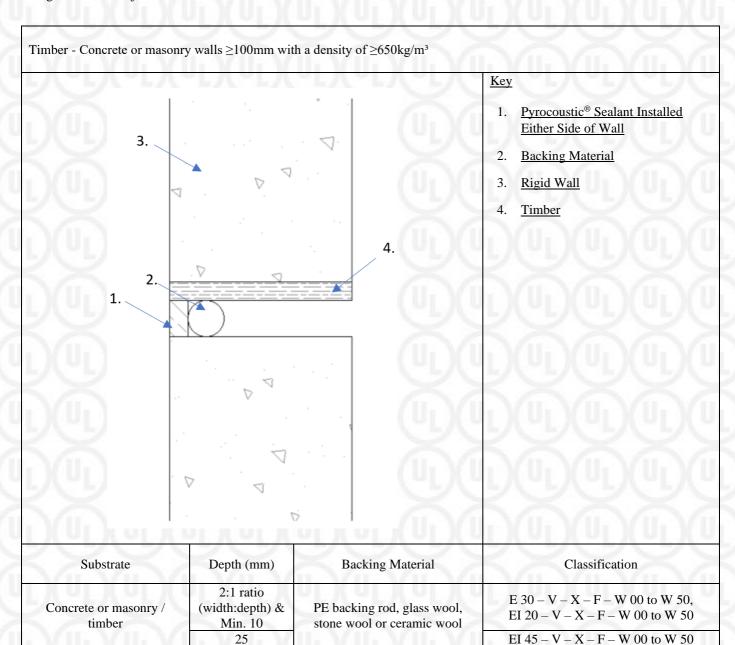


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Single sided linear joint in timber faced wall





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### **Rigid Walls Minimum Thickness 150mm**

Double sided linear joint seal in wall

Concrete or masonry walls ≥150mm with a density of ≥650kg/m³ Key Pyrocoustic® Sealant 2. Backing Material 3. Rigid Wall 2. Substrate Depth (mm) **Backing Material** Classification Stone wool or ceramic wool EI 240 - V - X - F - W 00 to W 60 Concrete / masonry 30  $(\geq 40 \text{mm} \geq 45 \text{kg/m}^3)$ 



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Double sided linear joint seal in wall

Concrete or masonry walls ≥150mm with a density of ≥650kg/m³ Key 1. Pyrocoustic® Sealant **Backing Material** 3. Rigid Wall 2. 1. Substrate Depth (mm) **Backing Material** Classification PE backing rod, glass wool, Concrete / masonry 25 EI 240 - V - X - F - W 00 to W 50 stone wool or ceramic wool



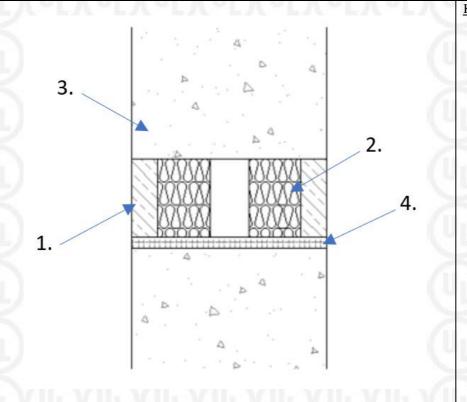
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Double sided linear joint seal in steel faced wall

Steel - Concrete or masonry walls  $\geq$ 150mm with a density of  $\geq$ 650kg/m³



### Key

- 1. Pyrocoustic® Sealant
- 2. Backing Material
- 3. Rigid Wall
- 4. Steel

Substrate	Depth (mm)	Backing Material	Classification
Concrete or masonry / steel	30	Stone wool or ceramic wool (≥40mm ≥45kg/m³)	E 240 – V – X – F – W 00 to W 60, EI 60 – V – X – F – W 00 to W 60



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Double sided linear joint seal in timber faced wall

3. Segid Wall

4. Timber

4. Leave the second of the seco

Substrate	Depth (mm)	Backing Material	Classification
Concrete or masonry / timber	30	Stone wool or ceramic wool (≥40mm ≥45kg/m³)	EI 60 – V – X – F – W 00 to W 60

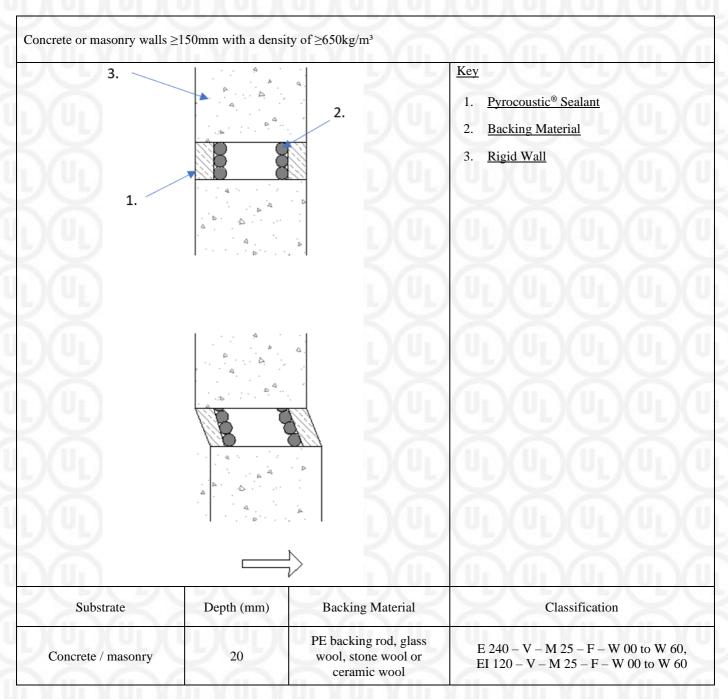


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Double sided seal in wall with movement





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Single sided linear joint in wall with movement

Concrete or masonry walls ≥150mm with a density of ≥650kg/m³ Key 3. 1. Pyrocoustic® Sealant Installed Either Side of Wall 2. **Backing Material** 3. Rigid Wall Depth (mm) Classification Substrate **Backing Material** Stone wool or ceramic E 240 - V - M 25 - F - W 00 to W 60,Concrete / masonry wool ( $\geq$ 75mm  $\geq$ 60kg/m³, EI 120 - V - M 25 - F - W 00 to W 60 compressed to 60%)



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### **Rigid Floors Minimum Thickness 150mm**

Single sided linear joint in floor from under side

Concrete or masonry floors ≥150mm with a density of ≥650kg/m<sup>3</sup> Key 3. Pyrocoustic® Sealant **Backing Material** Rigid Floor 4 2. 0 1. Depth (mm) Substrate **Backing Material** Classification E 240 - H - X - F - W 00 to W 50,25 EI 90 - H - X - F - W 00 to W 50PE backing rod, glass wool, Concrete / masonry stone wool or ceramic wool 2:1 ratio E 240 - H - X - F - W 00 to W 50, (width:depth) & EI 45 - H - X - F - W 00 to W 50Min. 10



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Min. 10

Single sided linear joint in floor from top side

Concrete or masonry floors ≥150mm with a density of ≥650kg/m<sup>3</sup> 1. 1. Pyrocoustic® Sealant 2. **Backing Material** Rigid Floor Depth (mm) **Backing Material** Classification Substrate E 240 - H - X - F - W 00 to W 50, 25 EI 90 - H - X - F - W 00 to W 50PE backing rod, glass wool, Concrete / masonry 2:1 ratio stone wool or ceramic wool E 240 - H - X - F - W 00 to W 50,(width:depth) & EI 45 - H - X - F - W 00 to W 50



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Single sided linear joint in steel faced floor from underside

Steel - Concrete or masonry floors ≥150mm with a density of ≥650kg/m³ Key 1. Pyrocoustic® Sealant 4. 3. **Backing Material** Rigid Floor Steel 2. D 1. Substrate Depth (mm) **Backing Material** Classification E 240 - H - X - F - W 00 to W 50,25 EI 90 – H – X – F – W 00 to W 50 PE backing rod, glass wool, Concrete or masonry / steel 2:1 ratio stone wool or ceramic wool E 120 - H - X - F - W 00 to W 50,(width:depth) & EI 30 - H - X - F - W 00 to W 50 Min. 10



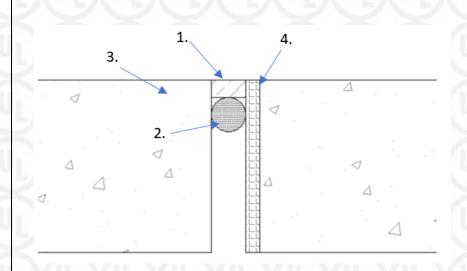
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Single sided linear joint in steel faced floor from top side

Steel - Concrete or masonry floors ≥150mm with a density of ≥650kg/m³



### Key

- l. Pyrocoustic® Sealant
- 2. Backing Material
- 3. Rigid Floor
- 4. Steel

Substrate	Depth (mm)	Backing Material	Classification
	25		E 240 – H – X – F – W 00 to W 50, EI 90 – H – X – F – W 00 to W 50
Concrete or masonry / steel	2:1 ratio (width:depth) & Min. 10	PE backing rod, glass wool, stone wool or ceramic wool	E 120 – H – X – F – W 00 to W 50, EI 30 – H – X – F – W 00 to W 50



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Single sided linear joint seal in timber faced floor from underside

Min. 10

Timber - Concrete or masonry floors ≥150mm with a density of ≥650kg/m³ Key 1. Pyrocoustic® Sealant 3. **Backing Material** Rigid Floor **Timber** 2. D 1. Depth (mm) Classification Substrate **Backing Material** EI 45 - H - X - F - W 00 to W 5025 Concrete or masonry / PE backing rod, glass wool, 2:1 ratio timber stone wool or ceramic wool (width:depth) & EI 30 - H - X - F - W 00 to W 50

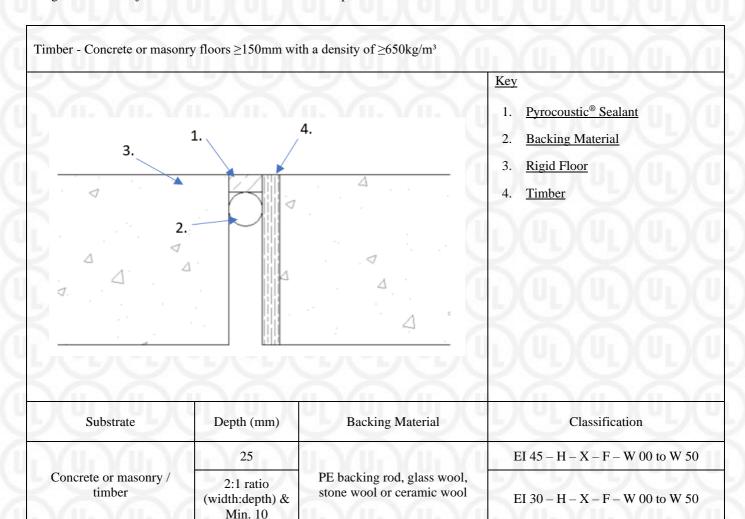


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Single sided linear joint seal in timber faced floor from top side





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Single sided linear joint in floor from top side with movement

Concrete or masonry floors  $\ge$ 150mm with a density of  $\ge$ 650kg/m<sup>3</sup> Key 1. Pyrocoustic® Sealant **Backing Material** Rigid Floor Depth (mm) Substrate **Backing Material** Classification Stone wool or ceramic wool  $(\ge 100 \text{mm} \ge 60 \text{kg/m}^3,$ EI 240 - H - M 25 - F - W 00 to W 60 Concrete / masonry compressed to 60%)



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Double sided linear joint seal in floor with movement

Concrete or masonry floors ≥150mm with a density of ≥650kg/m<sup>3</sup> Key 1. Pyrocoustic® Sealant **Backing Material** Rigid Floor Substrate Depth (mm) **Backing Material** Classification E 240 - H - M 17 - F - W 00 to W 60, PE backing rod, glass wool, 20 Concrete / masonry stone wool or ceramic wool EI 60 - H - M 17 - F - W 00 to W 60



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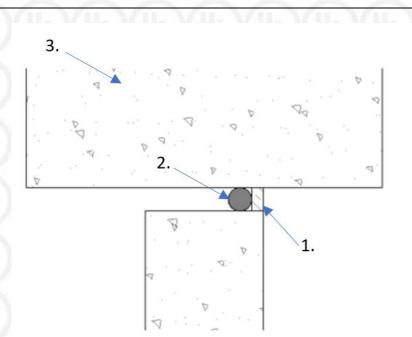
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### **Head of Wall Minimum Thickness 150mm**

Single sided head of wall joint in floor

Concrete or masonry walls & floors ≥150mm with a density of ≥650kg/m³



### Key

- 1. <u>Pyrocoustic® Sealant Installed</u> <u>Either Side of Wall</u>
- 2. Backing Material
- 3. Rigid Floor

	Substrate	Depth (mm)	Backing Material	Classification
	Concrete / masonry	25	Un (Un)(Un)(U	E 240 – T – X – F – W 00 to W 50, EI 90 – T – X – F – W 00 to W 50
li Il		2:1 ratio (width:depth) & Min. 10	PE backing rod, glass wool, stone wool or ceramic wool	E 240 – T – X – F – W 00 to W 50, EI 45 – T – X – F – W 00 to W 50



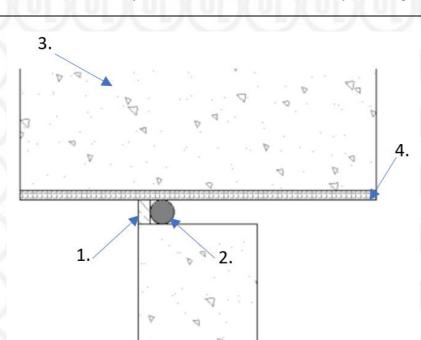
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Single sided head of wall joint with steel face

Steel - Concrete or masonry walls & floors ≥150mm with a density of ≥650kg/m³



### Key

- 1. Pyrocoustic® Sealant Installed Either Side of Wall
- 2. Backing Material
- 3. Rigid Floor
- 4. Steel

-/\ -/\ -/\	-/\ -/\	-/\ -/\ -/\	
Substrate	Depth (mm)	Backing Material	Classification
	25		E 240 – T – X – F – W 50, EI 90 – T – X – F – W 50
Concrete or masonry / steel	2:1 ratio (width:depth) & Min. 10	PE backing rod, glass wool, stone wool or ceramic wool	E 240 – T – X – F – W 00 to W 50, EI 30 – T – X – F – W 00 to W 50



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Single sided head of wall joint in timber face

Timber - Concrete or masonry walls & floors  $\geq 150 mm$  with a density of  $\geq 650 kg/m^3$ 

2.

3.

1.

### Key

4.

- 1. Pyrocoustic® Sealant Installed Either Side of Wall
- 2. Backing Material
- 3. Rigid Floor
- 4. <u>Timber</u>

Substrate	Depth (mm)	Backing Material	Classification
	25	XXXX	EI 45 – T – X – F – W 00 to W 50
Concrete or masonry / timber	2:1 ratio (width:depth) & Min. 10	PE backing rod, glass wool, stone wool or ceramic wool	EI 30 – T – X – F – W 00 to W 50



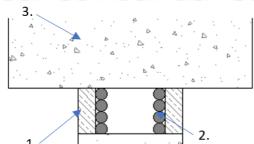
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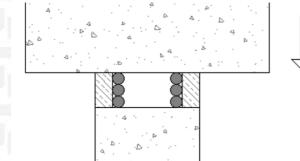
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Double sided head of wall joint with movement

Concrete or masonry walls & floors ≥150mm with a density of ≥650kg/m³







### Key

- 1. Pyrocoustic® Sealant
- 2. Backing Material
- 3. Rigid Floor

Substrate	Depth (mm)	Backing Material	Classification
Concrete / masonry	20	PE backing rod, glass wool, stone wool or ceramic wool	E 240 – T – M 17 – F – W 00 to W 60, EI 60 – T – M 17 – F – W 00 to W 60

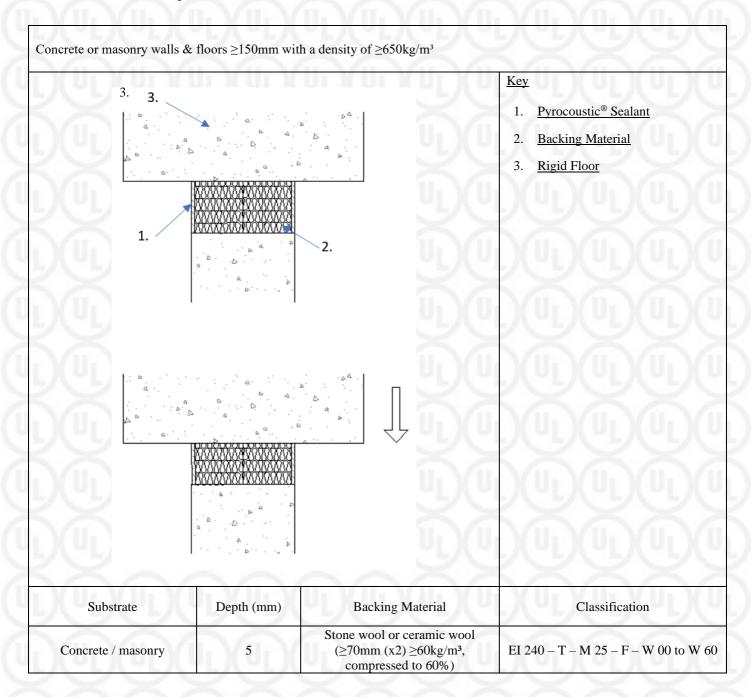


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Double sided head of wall joint with movement





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### Flexible or Rigid Walls Minimum Thickness 75mm

Double sided linear joint in wall

Flexible or Rigid Walls ≥75mm Key Pyrocoustic® Sealant **Backing Material** 3. Flexible wall 2. Substrate Depth (mm) **Backing Material** Classification Flexible / Flexible Stone wool or ceramic wool E 60 - V - X - F - W 00 to W 25,12.5 EI 45- V - X - F - W 00 to W 25  $(50 \text{mm } 45 \text{kg/m}^3)$ Masonry / masonry



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### Flexible or Rigid Walls Minimum Thickness 120mm

Double sided linear joint in wall

lexible or Rigid Walls ≥120n	nm		That are a
2.		3.	Key  1. Pyrocoustic® Sealant  2. Backing Material  3. Flexible Wall
Substrate	Depth (mm)	Backing Material	Classification
Flexible / Flexible  Masonry / masonry	12.5	PE backing rod, glass wool, stone wool or ceramic wool	EI 120 – V – X – F – W 00 to W 20



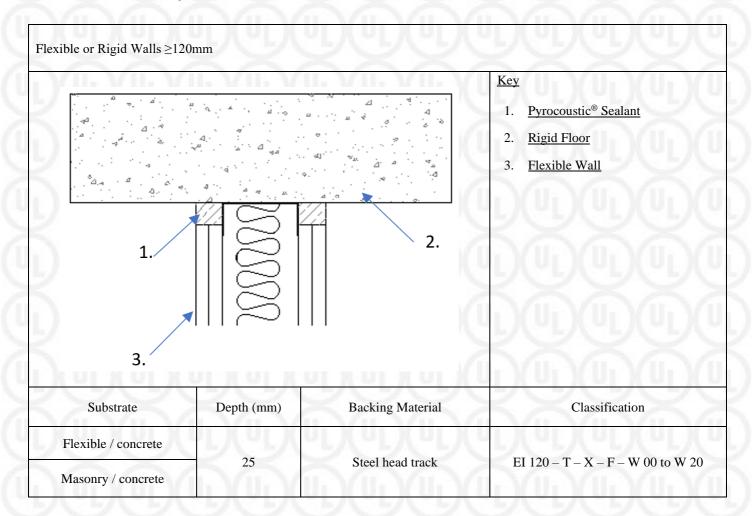
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### Flexible Head of Walls Minimum Thickness 120mm

Double sided head of wall joint





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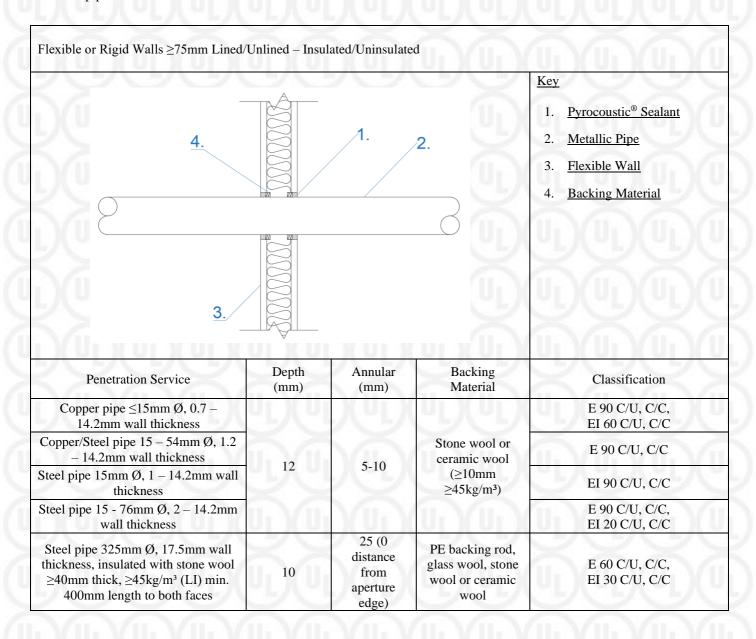
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### **Penetration Seals**

Flexible or Rigid Walls Minimum Thickness 75mm

Metallic pipes





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Single cables

Flexible or Rigid Walls ≥75mm Lined/Unlined – Insulated/Uninsulated Key Pyrocoustic® Sealant Single Cable Flexible Wall **Backing Material** Maximum Depth Backing Penetration Service Aperture Size Classification Material (mm) (mm) PE backing rod, glass D1 cable\* 10 100 Ø wool, stone wool or E 60, EI 45 ceramic wool Stone wool or E 90, EI 60 B cable\* 12 25 Ø ceramic wool (10mm  $45 \text{kg/m}^3$ )



<sup>\*</sup> As defined in EN 1366-3: 2009, Annex A

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### Cable trunking

Flexible or Rigid Walls  $\geq$ 75mm - Lined/Unlined - Insulated/Uninsulated Key 1. Pyrocoustic® Sealant Metal Trunking Filled with Cables Flexible Wall S-Line Pillows **Backing Material** Maximum Minimum Backing Depth Penetration Service Aperture Distance to Edge Classification Material (mm) Size (mm) of Aperture (mm) PE backing rod, Steel trunking up to glass wool, 10 170 x 170 0 E 60, EI 20 150mm x 150mm stone wool or ceramic wool PE backing rod, Steel trunking up to glass wool, 10 70 x 70 E 60, EI 45 50mm x 50mm stone wool or ceramic wool



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Insulated metallic pipes

Flexible or Rigid Walls  $\geq$ 75mm - Lined/Unlined - Insulated/Uninsulated Key Pyrocoustic® Sealant Metal Pipe 5. Flexible Wall **Stone Wool Insulation Backing Material** Maximum Minimum Depth Backing Penetration Service Annular Distance to Edge Classification Material (mm) (mm) of Aperture (mm) Copper/Steel Pipe 159mm PE backing rod, Ø, 2-14.2mm wall E 60 C/U, C/C, glass wool, thickness insulated with 10 10 0 stone wool or EI 45 C/U, C/C stone wool >50mm thick, ceramic wool  $\geq 90 \text{kg/m}^3 \text{ (C/S)}$ 



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### Cable trays

Flexible or Rigid Walls ≥75mm – Lined/Unlined – Insulated/Uninsulated Key Pyrocoustic® Sealant Cable Tray 4. Flexible Wall **Backing Material** Maximum Minimum Depth Aperture Backing Penetration Service Classification Distance to Edge (mm) Size (mm) (h Material of Aperture (mm) xw) Steel cable tray ≤450mm PE backing rod, wide loaded with cables glass wool, 10 470 x 100 0 E 60, EI 20  $\leq$ 21mm Ø + C1, C2, C3 stone wool or cables\* ceramic wool Steel cable tray ≤450mm wide loaded with cables PE backing rod,  $\leq 21$ mm Ø + C1, C2, C3 glass wool, EI 45 cables\*with insulation 10 470 x 100 stone wool or  $\leq$ 40mm thick  $\leq$ 45kg/m<sup>3</sup>, ceramic wool < 400mm either side of the wall (L/I)



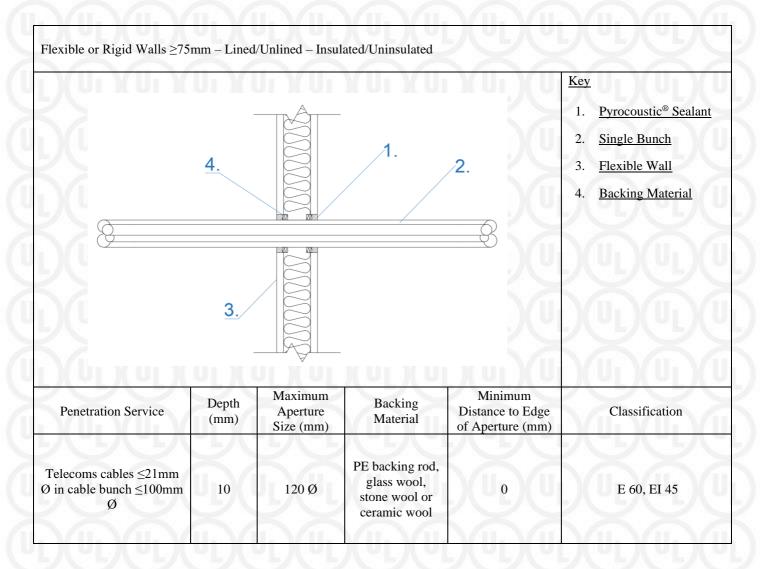
<sup>\*</sup> As defined in EN 1366-3: 2009, Annex A

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### Cable bunches





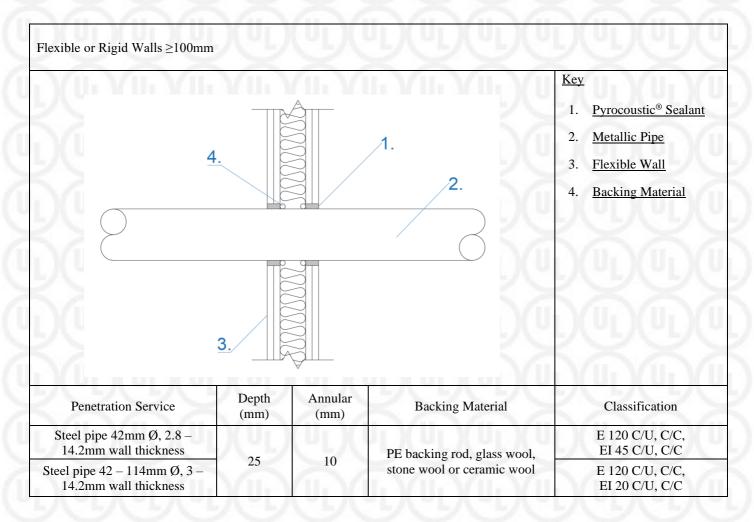
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### Flexible or Rigid Walls Minimum Thickness 100mm

Metallic pipes



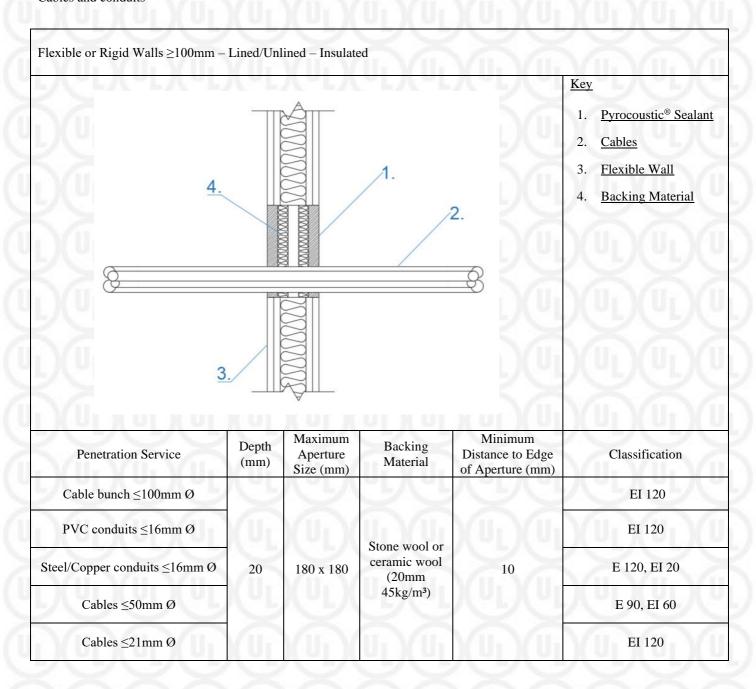


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### Cables and conduits





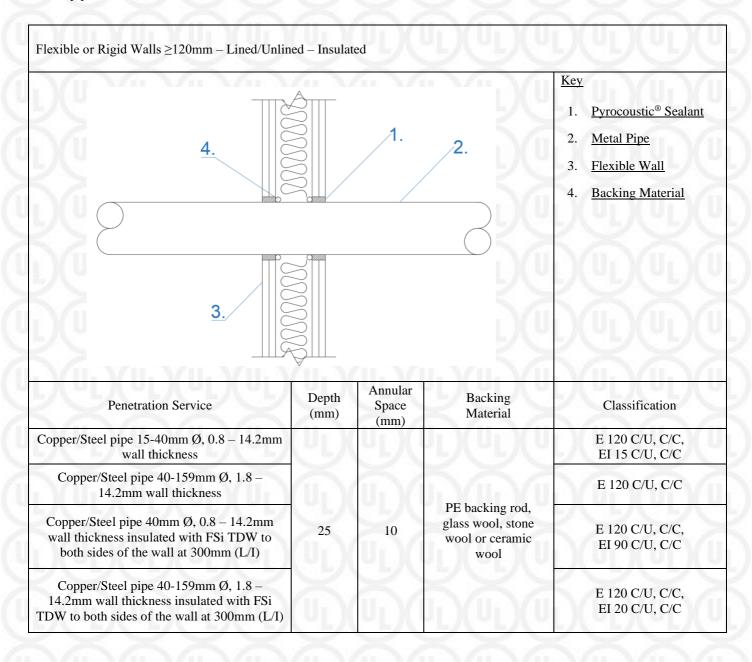
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### Flexible or Rigid Walls Minimum Thickness 120mm

Metal pipes





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### Cable trays

Flexible or Rigid Walls ≥120mm – Lined/Unlined – Insulated Key 1. Pyrocoustic® Sealant Cable Tray/Cables Flexible Wall **Backing Material** Maximum Minimum Depth Aperture Penetration Service Classification **Backing Material** Distance to Edge (mm) Size (mm) of Aperture (mm) (w x h)Stone wool or Steel cable tray ≤450mm ceramic wool wide loaded with cables 25 490 x 100 20 E 120, EI 90 (>35mm ≤21mm Ø  $\geq 80 \text{kg/m}^3$ ) PE backing rod, C1, C2, D1 and D2 glass wool, stone 25 200 x 100 20 E 90, EI 60 Cables\* wool or ceramic wool



<sup>\*</sup> As defined in EN 1366-3: 2009, Annex A

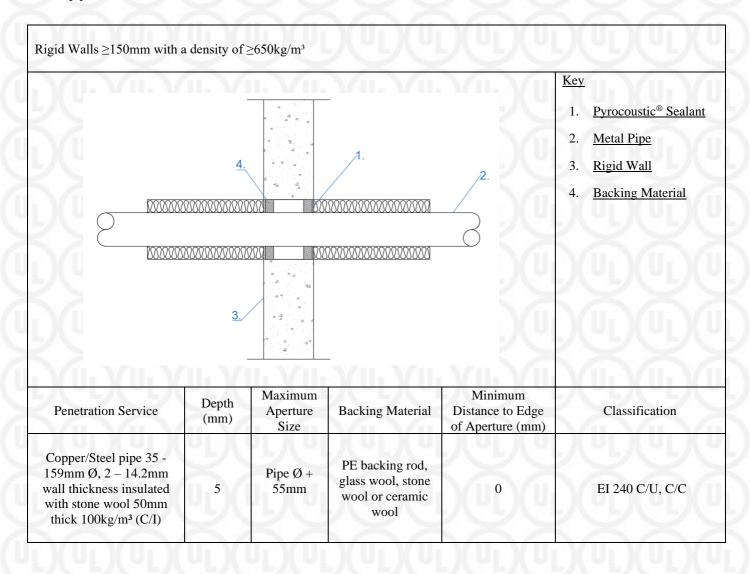
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### Rigid walls Minimum Thickness 150mm

Metal pipes



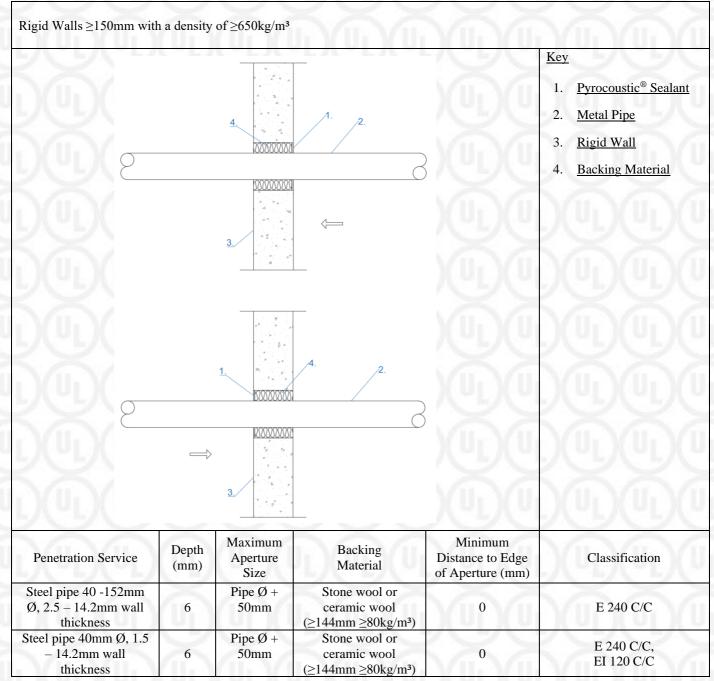


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Metal pipes with single sided access





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### **Rigid Floors Minimum Thickness 150mm**

Metal pipes

Rigid Floors ≥150mm with a density of ≥650kg/m<sup>3</sup> Key Pyrocoustic® Sealant 2. Metal Pipe Rigid Floor **Backing Material** Minimum Maximum Depth Backing Penetration Service Distance to Edge Classification Aperture Size (mm) Material of Aperture (mm) (mm) Copper/Steel pipe 42 -Stone wool or 159mm Ø, 1 – 14.2mm E 180 C/U, C/C ceramic wool wall thickness 5 200 x 200 20 (≥145mm Copper/Steel pipe 42mm Ø, E 240 C/U, C/C  $\geq$ 45kg/m³) 1 – 14.2mm wall thickness

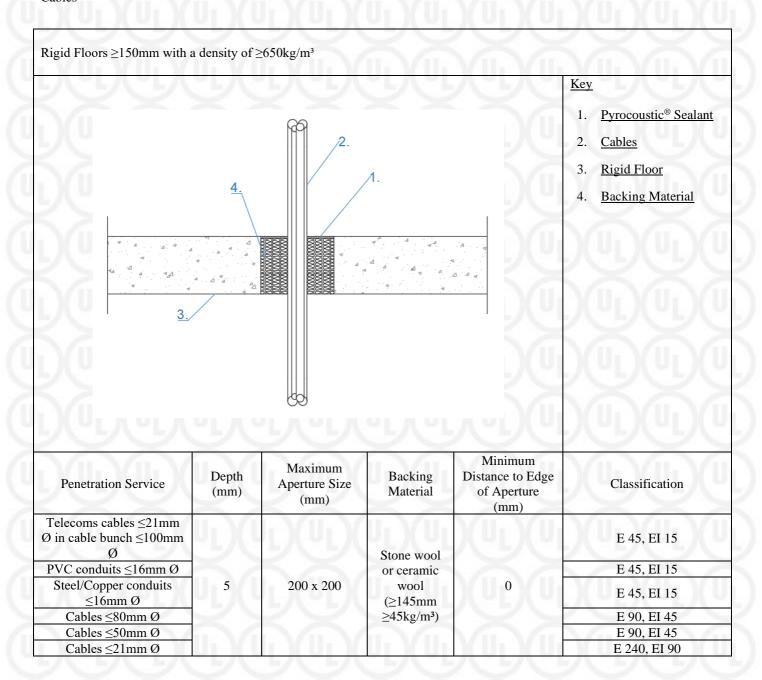


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Cables





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