

UL-EU CERTIFICATE

Certificate No.
UL-EU-00500-EN

Issue date
25-04-2014

Issue No.
7

Re-Issue date
2026-01-26

Expiry date
17-06-2034



4705

This is to acknowledge that:
FSi Limited

Address:
Westminster Industrial Estate
Tamworth Road
Measham
DE12 7DS

Has had the product:
Pyrocoustic®

evaluated and meets the requirements of the standards:

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

Places of production:
As above & S/001

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shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.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-00500-EN

This certificate relates to the use of Pyrocoustic® 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® joint seals is restricted to $\leq 7.5\%$ unless specifically stated within the tables below.

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

Pyrocoustic gap seals comprising various backing materials, used to seal up to 30 mm wide gaps between drywall and masonry wall constructions and fire resisting timber door frames, will provide 30 minutes or 60 minute integrity performance, subject to configuration and doorset specification. Critical parameters for the configurations are detailed in Annex A.



Appendix UL-EU CERTIFICATE UL-EU-00500-EN

According to EN 1366-3: 2021+A1: 2024, Clause H.4.1.8.6.2, the following end uses are envisaged* based upon the tested pipe end configuration:

Pipe material	Tested pipe end	Envisaged use scenario
Metal	C/U or C/C	Closed pipe systems (e.g. systems under pressure)
	U/U, U/C or C/U	Ventilated pipe systems (e.g. sewage pipes) and for closed pipe systems
Plastic	U/U or C/U	Ventilated pipe systems and for closed pipe systems
	U/U	Ventilated pipe systems, for rainwater systems and for closed pipe systems

* In the case where a national prescription is in conflict with the content of the table above, the national prescriptions prevail.

According to EN 13501-2: 2023, Clause 7.5.8.4, the following classification codes are defined in addition E & EI:

Test conditions	Designation
Specimen orientation - Horizontal supporting construction - Vertical supporting construction – vertical joint - Vertical supporting construction – horizontal joint	H V T
Movement capability - No movement - Movement induced lateral (in%) - Movement induced lateral (in%)	X M _{lat} 000 M _{shear} 000
Type of splices - Manufactured - Field - Both manufactured and field	M F B
Joint widths range (in mm)	W w1 to w2
e.g. EI 30 – H – M _{lat} 30 – B – W 30 to W 90	



Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Product-type: Sealant		Intended use: Linear Joint & Gap Seal / Penetration 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 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
BWR 5 Protection against noise		
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	Rw(C;Ctr)= 63 (-1;-7) dB^
BWR 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
* Applicable only to linear joint and gap seals ^ As given in ETA, see page 5 for additional ratings		



Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Pyrocoustic®: Air Permeability according to BS EN 1026				
Pressure (Pa)	Results under positive chamber pressure		Results under negative chamber pressure	
	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*

* VOC limit for other sealants

** Given by client

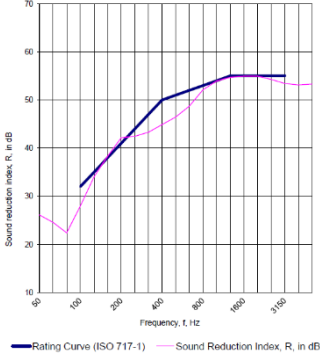
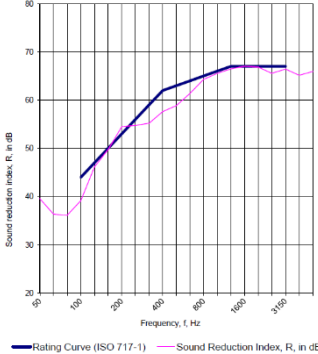
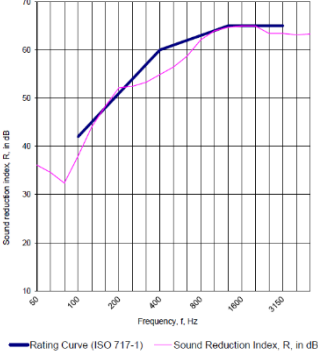
*** No information about exempt compounds. Set to zero.



Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Pyrocoustic®: Acoustic performance according to BS EN ISO 10140-2:2010			
Configuration	$R_w(C; C_{tr})$ Specimen only, 1m ²	$R_w(C; C_{tr})$ Partition & Specimen, 14.2m ²	D_{new} Partition & Specimen, 14.2m ²
Pyrocoustic® Sealant on source room side of wall, 15mm deep x 60mm wide x 2000mm high, with 55mm deep Stonewool (60kg/m ³)	51 (-1; -6)	63 (-1; -7)	61 (-1; -6)
			
Pyrocoustic® Sealant on source room side of wall, 25mm deep x 60mm wide x 2000mm high, with 55mm deep Stonewool (60kg/m ³)	51 (-1; -6)	63 (-1; -7)	61 (-1; -6)



Solutions

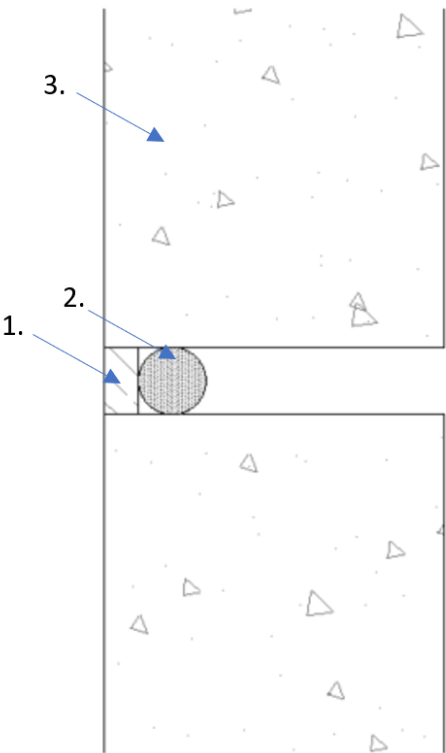
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Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Linear Joint Seals

Rigid Walls Minimum Thickness 100mm

Single sided linear joint in wall

Concrete or masonry walls $\geq 100\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant Installed Either Side of Wall</u> 2. <u>Backing Material</u> 3. <u>Rigid Wall</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete / masonry	25	PE backing rod, glass wool, stone wool or ceramic wool	E 120 – V – X – F – W 00 to W 50, EI 60 – V – X – F – W 00 to W 50
	2:1 ratio (width:depth) & Min. 10		E 120 – V – X – F – W 00 to W 50, EI 45 – V – X – F – W 00 to W 50

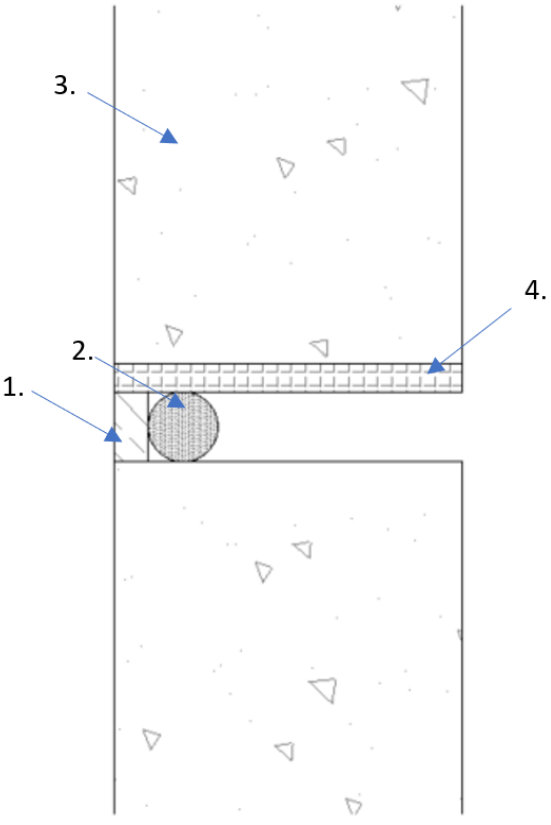


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single sided linear joint in steel faced wall

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

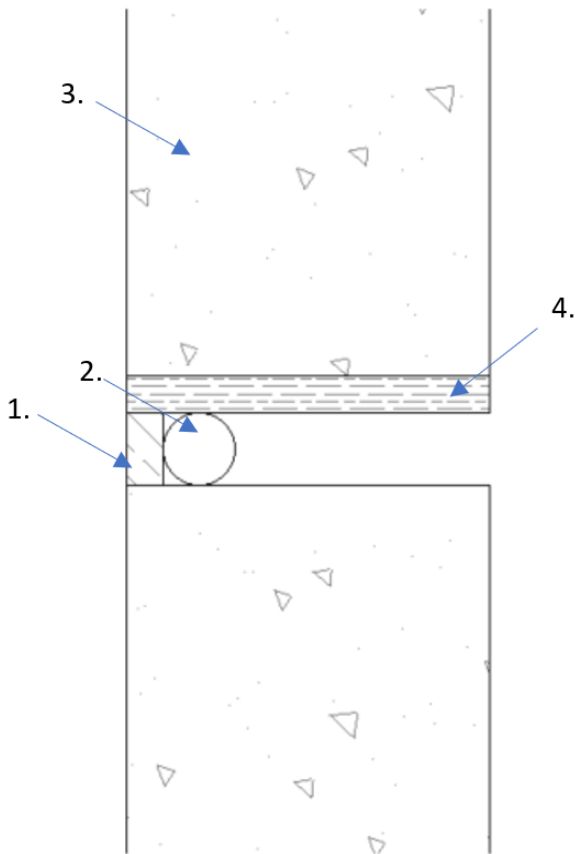


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single sided linear joint in timber faced wall

Timber - Concrete or masonry walls $\geq 100\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
			Key 1. <u>Pyrocoustic® Sealant Installed Either Side of Wall</u> 2. <u>Backing Material</u> 3. <u>Rigid Wall</u> 4. <u>Timber</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete or masonry / timber	2:1 ratio (width:depth) & Min. 10	PE backing rod, glass wool, stone wool or ceramic wool	E 30 – V – X – F – W 00 to W 50, EI 20 – V – X – F – W 00 to W 50
	25		EI 45 – V – X – F – W 00 to W 50



Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Rigid Walls Minimum Thickness 150mm

Double sided linear joint seal in wall

Concrete or masonry walls ≥150mm with a density of ≥650kg/m³			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Wall</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete / masonry	30	Stone wool or ceramic wool (≥40mm ≥45kg/m³)	EI 240 – V – X – F – W 00 to W 60



Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Double sided linear joint seal in wall

Concrete or masonry walls $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
3. 2. 1.		<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Wall</u>	
Substrate	Depth (mm)	Backing Material	Classification
Concrete / masonry	25	PE backing rod, glass wool, stone wool or ceramic wool	EI 240 – V – X – F – W 00 to W 50



Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Double sided linear joint seal in steel faced wall

Steel - Concrete or masonry walls $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
		Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Wall</u> 4. <u>Steel</u>	
Substrate	Depth (mm)	Backing Material	Classification
Concrete or masonry / steel	30	Stone wool or ceramic wool ($\geq 40\text{mm}$ $\geq 45\text{kg/m}^3$)	E 240 – V – X – F – W 00 to W 60, EI 60 – V – X – F – W 00 to W 60



Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

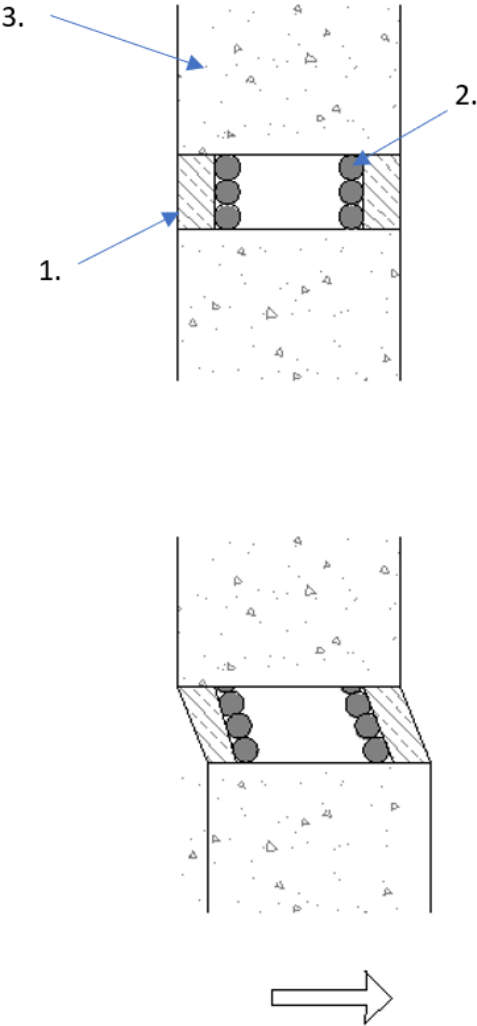
Double sided linear joint seal in timber faced wall

Timber - Concrete or masonry walls ≥150mm with a density of ≥650kg/m³			
		<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Wall</u> 4. <u>Timber</u>	
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



Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Double sided seal in wall with movement

Concrete or masonry walls $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
		Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Wall</u>	
Substrate	Depth (mm)	Backing Material	Classification
Concrete / masonry	20	PE backing rod, glass wool, stone wool or ceramic wool	E 240 – V – M 25 – F – W 00 to W 60, EI 120 – V – M 25 – F – W 00 to W 60

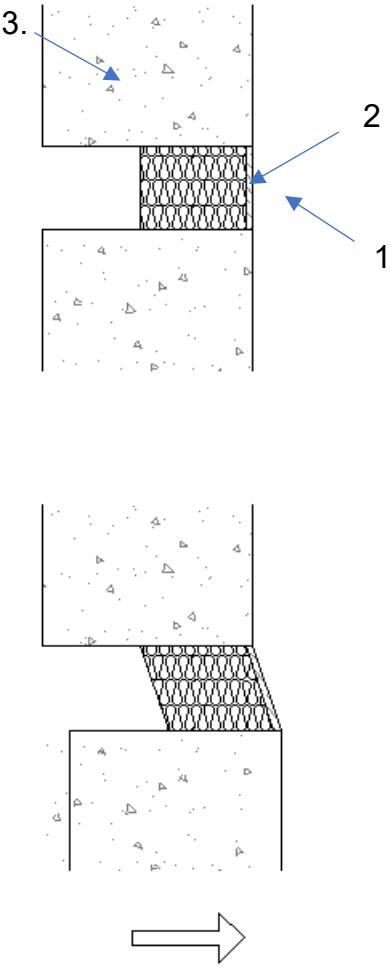


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single sided linear joint in wall with movement

Concrete or masonry walls $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant Installed Either Side of Wall</u> 2. <u>Backing Material</u> 3. <u>Rigid Wall</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete / masonry	5	Stone wool or ceramic wool ($\geq 75\text{mm}$ $\geq 60\text{kg/m}^3$, compressed to 60%)	E 240 – V – M 25 – F – W 00 to W 60, EI 120 – V – M 25 – F – W 00 to W 60



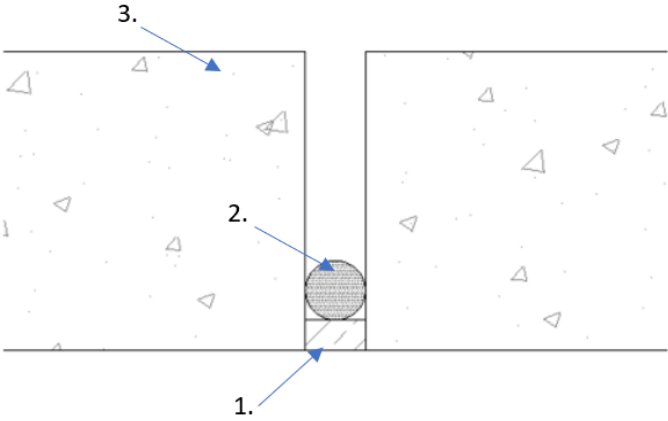
Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Rigid Floors Minimum Thickness 150mm

Single sided linear joint in floor from under side

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

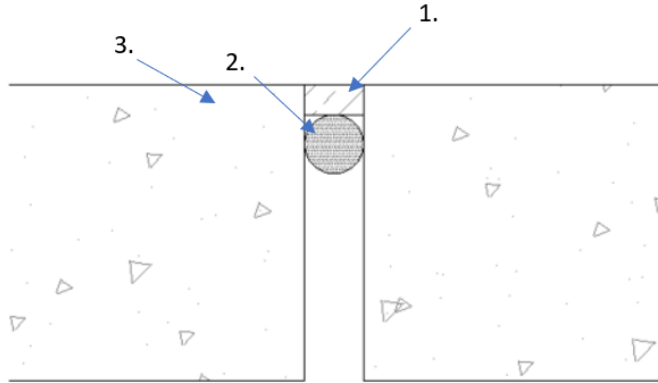


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single sided linear joint in floor from top side

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

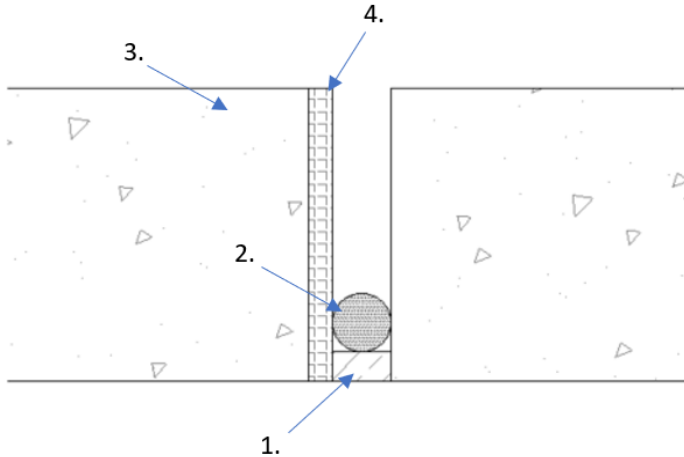


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single sided linear joint in steel faced floor from underside

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

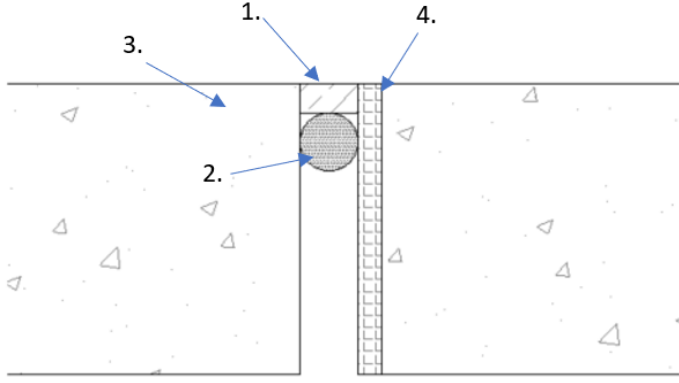


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single sided linear joint in steel faced floor from top side

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

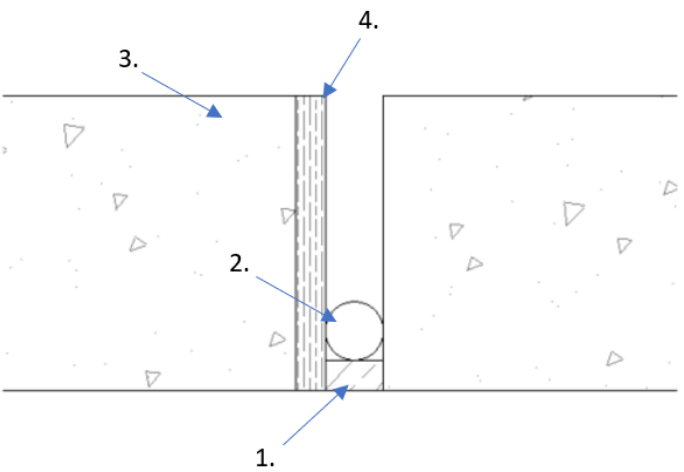


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single sided linear joint seal in timber faced floor from underside

Timber - Concrete or masonry floors $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Floor</u> 4. <u>Timber</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete or masonry / timber	25	PE backing rod, glass wool, stone wool or ceramic wool	EI 45 – H – X – F – W 00 to W 50
	2:1 ratio (width:depth) & Min. 10		EI 30 – H – X – F – W 00 to W 50

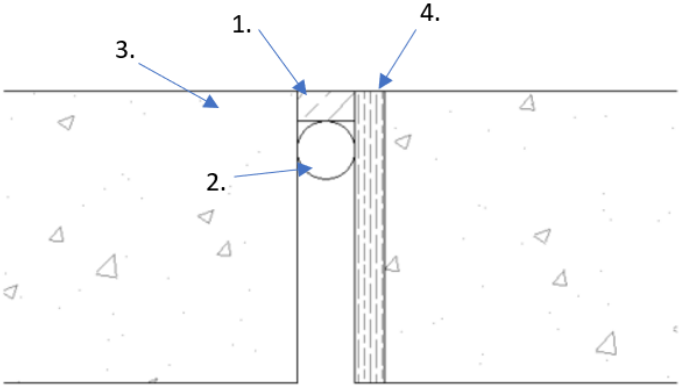


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

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

Timber - Concrete or masonry floors $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Floor</u> 4. <u>Timber</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete or masonry / timber	25	PE backing rod, glass wool, stone wool or ceramic wool	EI 45 – H – X – F – W 00 to W 50
	2:1 ratio (width:depth) & Min. 10		EI 30 – H – X – F – W 00 to W 50

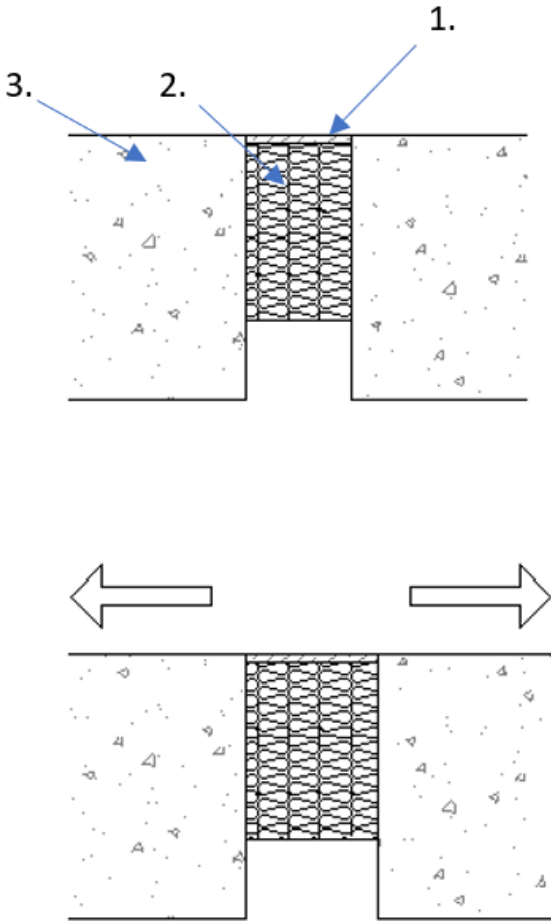


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single sided linear joint in floor from top side with movement

Concrete or masonry floors $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Floor</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete / masonry	5	Stone wool or ceramic wool ($\geq 100\text{mm}$ $\geq 60\text{kg/m}^3$, compressed to 60%)	EI 240 – H – M 25 – F – W 00 to W 60



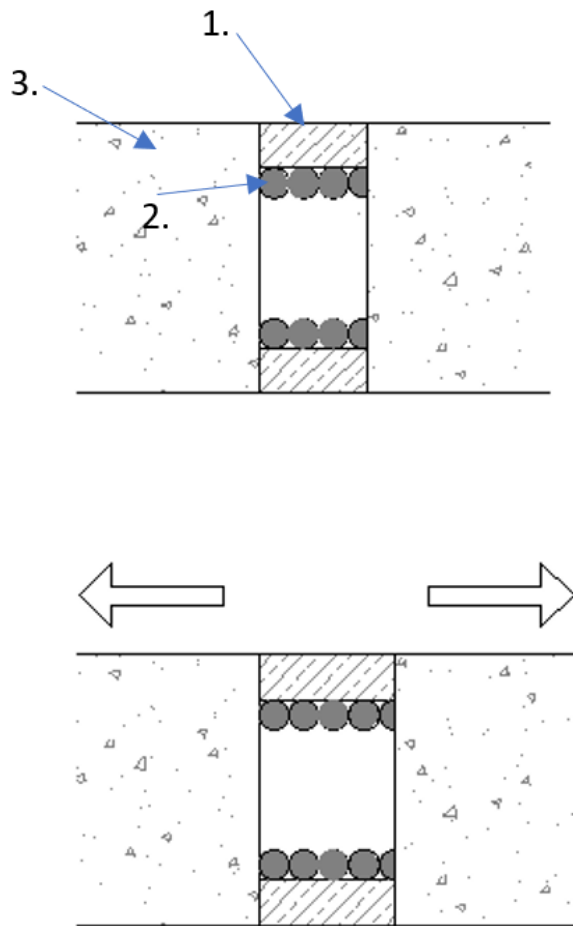
Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Double sided linear joint seal in floor with movement

Concrete or masonry floors $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$



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 – H – M 17 – F – W 00 to W 60, EI 60 – H – M 17 – F – W 00 to W 60



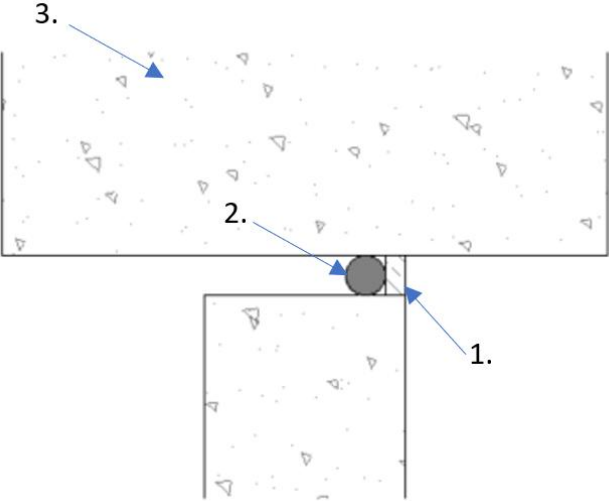
Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Head of Wall Minimum Thickness 150mm

Single sided head of wall joint in floor

Concrete or masonry walls & floors $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant Installed Either Side of Wall</u> 2. <u>Backing Material</u> 3. <u>Rigid Floor</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete / masonry	25	PE backing rod, glass wool, stone wool or ceramic wool	E 240 – T – X – F – W 00 to W 50, EI 90 – T – X – F – W 00 to W 50
	2:1 ratio (width:depth) & Min. 10		E 240 – T – X – F – W 00 to W 50, EI 45 – T – X – F – W 00 to W 50

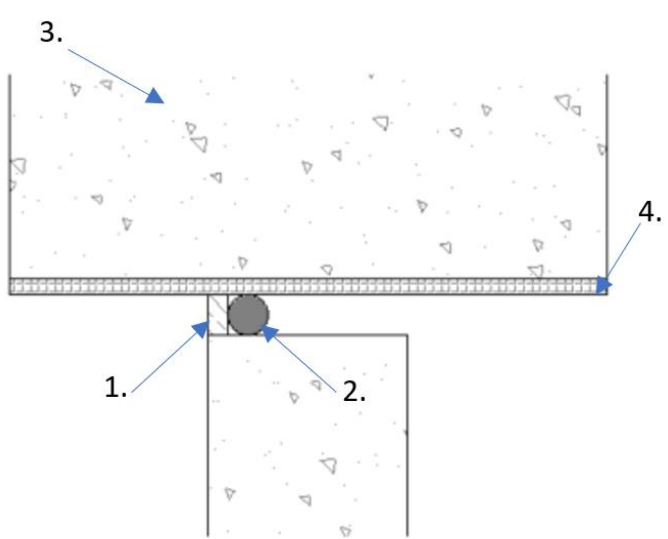


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single sided head of wall joint with steel face

Steel - Concrete or masonry walls & floors $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
			Key 1. <u>Pyrocoustic® Sealant Installed Either Side of Wall</u> 2. <u>Backing Material</u> 3. <u>Rigid Floor</u> 4. <u>Steel</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete or masonry / steel	25	PE backing rod, glass wool, stone wool or ceramic wool	E 240 – T – X – F – W 50, EI 90 – T – X – F – W 50
	2:1 ratio (width:depth) & Min. 10		E 240 – T – X – F – W 00 to W 50, EI 30 – T – X – F – W 00 to W 50

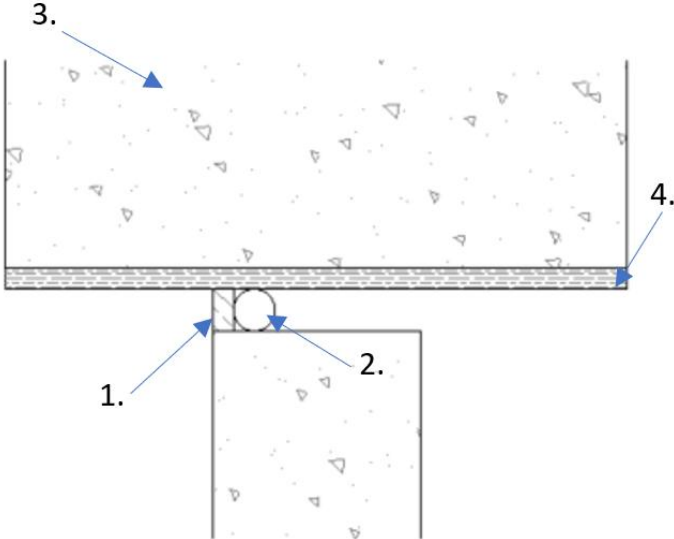


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single sided head of wall joint in timber face

Timber - Concrete or masonry walls & floors $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant Installed Either Side of Wall</u> 2. <u>Backing Material</u> 3. <u>Rigid Floor</u> 4. <u>Timber</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete or masonry / timber	25	PE backing rod, glass wool, stone wool or ceramic wool	EI 45 – T – X – F – W 00 to W 50
	2:1 ratio (width:depth) & Min. 10		EI 30 – T – X – F – W 00 to W 50

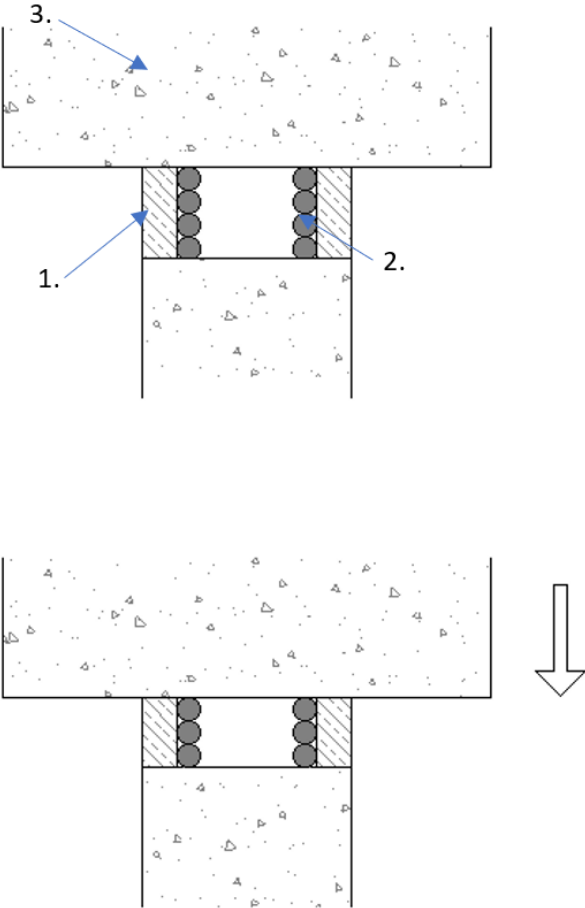


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Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

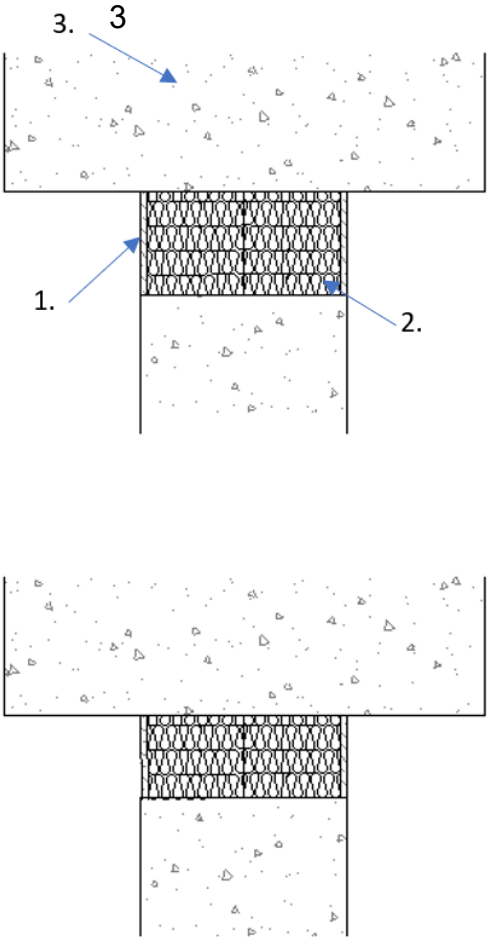
Double sided head of wall joint with movement

Concrete or masonry walls & floors ≥150mm with a density of ≥650kg/m³			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Floor</u>
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



Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Double sided head of wall joint with movement

Concrete or masonry walls & floors $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Floor</u>
Substrate	Depth (mm)	Backing Material	Classification
Concrete / masonry	5	Stone wool or ceramic wool ($\geq 70\text{mm}$ (x2) $\geq 60\text{kg/m}^3$, compressed to 60%)	EI 240 – T – M 25 – F – W 00 to W 60



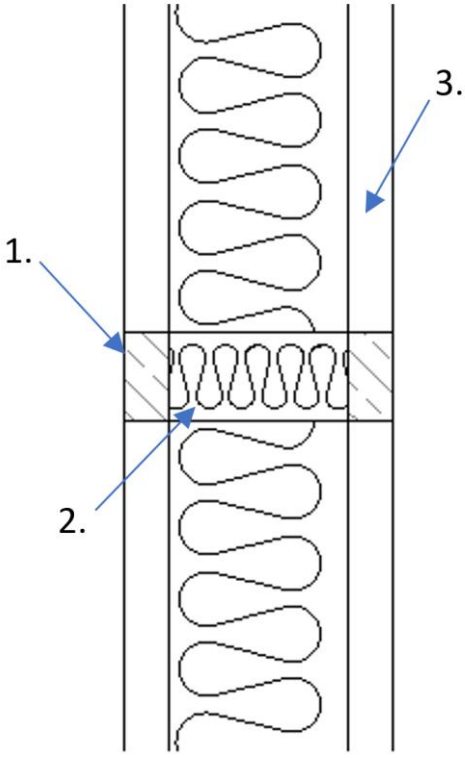
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Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Flexible or Rigid Walls Minimum Thickness 75mm

Double sided linear joint in wall

Flexible or Rigid Walls $\geq 75\text{mm}$			
			Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Flexible wall</u>
Substrate	Depth (mm)	Backing Material	Classification
Flexible / Flexible	12.5	Stone wool or ceramic wool (50mm 45kg/m³)	E 60 – V – X – F – W 00 to W 25, EI 45– V – X – F – W 00 to W 25
Masonry / masonry			



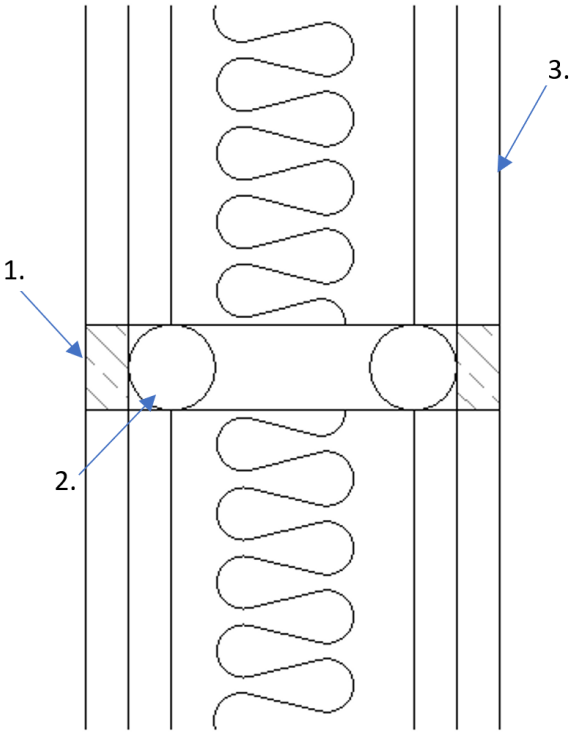
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Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Flexible or Rigid Walls Minimum Thickness 120mm

Double sided linear joint in wall

Flexible or Rigid Walls $\geq 120\text{mm}$			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Backing Material</u> 3. <u>Flexible Wall</u>
Substrate	Depth (mm)	Backing Material	Classification
Flexible / Flexible	12.5	PE backing rod, glass wool, stone wool or ceramic wool	EI 120 – V – X – F – W 00 to W 20
Masonry / masonry			



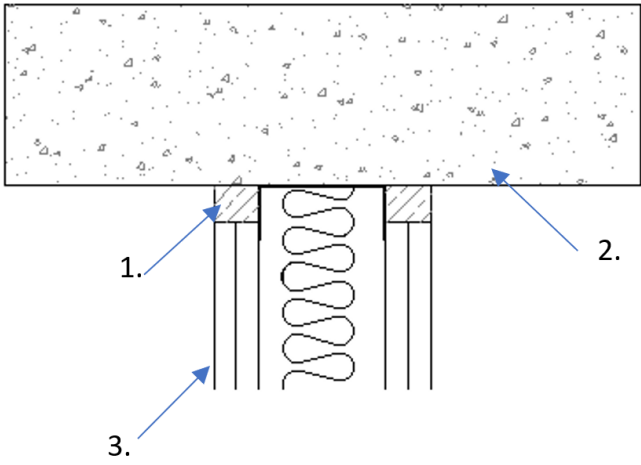
Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Flexible Head of Walls Minimum Thickness 120mm

Double sided head of wall joint

Flexible or Rigid Walls ≥120mm			
			<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Rigid Floor</u> 3. <u>Flexible Wall</u>
Substrate	Depth (mm)	Backing Material	Classification
Flexible / concrete	25	Steel head track	EI 120 – T – X – F – W 00 to W 20
Masonry / concrete			

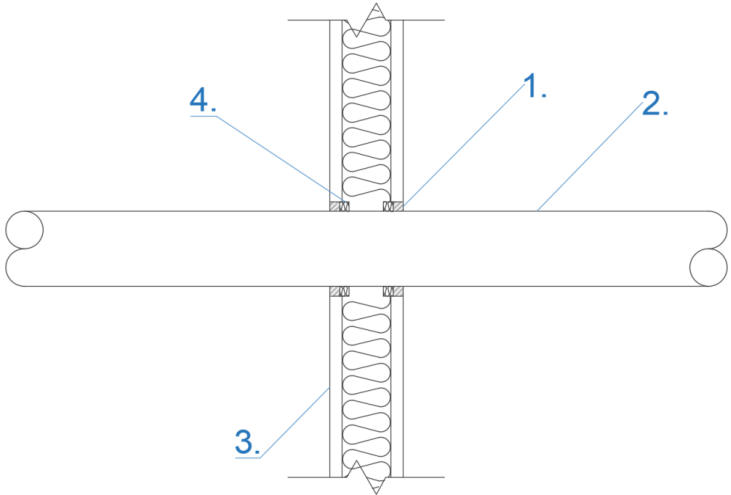


Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Penetration Seals

Flexible or Rigid Walls Minimum Thickness 75mm

Metallic pipes

Flexible or Rigid Walls ≥75mm Lined/Unlined – Insulated/Uninsulated				
				Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Metallic Pipe</u> 3. <u>Flexible Wall</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Annular (mm)	Backing Material	Classification
Copper pipe ≤15mm Ø, 0.7 – 14.2mm wall thickness	12	5-10	Stone wool or ceramic wool (≥10mm ≥45kg/m³)	E 90 C/U, C/C, EI 60 C/U, C/C
Copper/Steel pipe 15 – 54mm Ø, 1.2 – 14.2mm wall thickness				E 90 C/U, C/C
Steel pipe 15mm Ø, 1 – 14.2mm wall thickness				EI 90 C/U, C/C
Steel pipe 15 - 76mm Ø, 2 – 14.2mm wall thickness				E 90 C/U, C/C, EI 20 C/U, C/C
Steel pipe 325mm Ø, 17.5mm wall thickness, insulated with stone wool ≥40mm thick, ≥45kg/m³ (LI) min. 400mm length to both faces	10	25 (0 distance from aperture edge)	PE backing rod, glass wool, stone wool or ceramic wool	E 60 C/U, C/C, EI 30 C/U, C/C

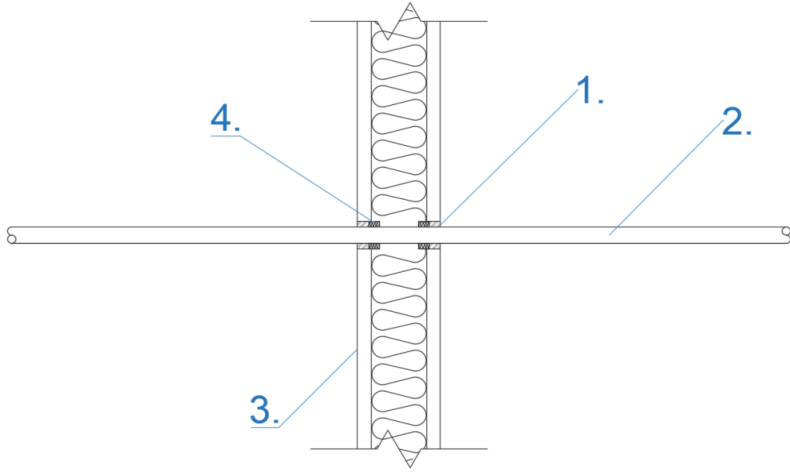


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Single cables

Flexible or Rigid Walls ≥75mm Lined/Unlined – Insulated/Uninsulated				
				Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Single Cable</u> 3. <u>Flexible Wall</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Classification
D1 cable*	10	100 Ø	PE backing rod, glass wool, stone wool or ceramic wool	E 60, EI 45
B cable*	12	25 Ø	Stone wool or ceramic wool (10mm 45kg/m³)	E 90, EI 60

* As defined in EN 1366-3: 2009, Annex A



Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Cable trunking

Flexible or Rigid Walls $\geq 75\text{mm}$ – Lined/Unlined – Insulated/Uninsulated					
					Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Metal Trunking Filled with Cables</u> 3. <u>Flexible Wall</u> 4. <u>S-Line Pillows</u> 5. <u>Backing Material</u>
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel trunking up to 150mm x 150mm	10	170 x 170	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60, EI 20
Steel trunking up to 50mm x 50mm	10	70 x 70	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60, EI 45

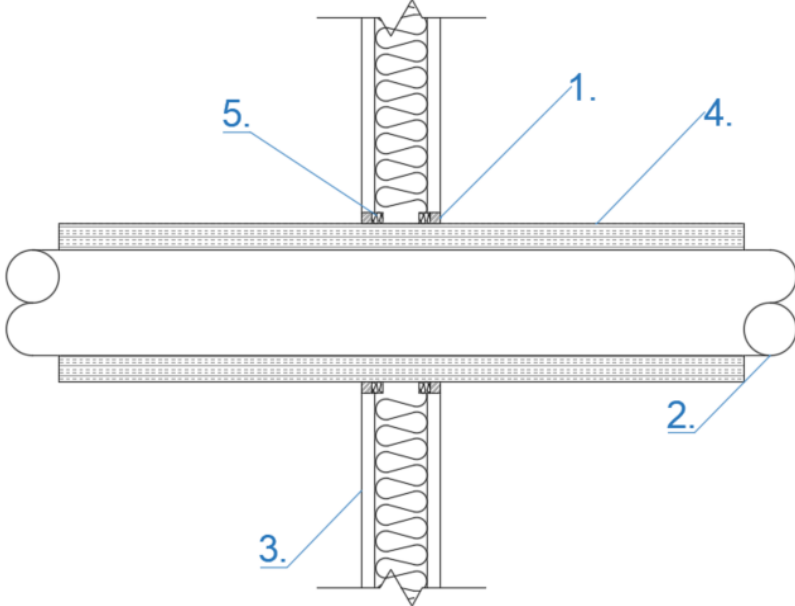


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Insulated metallic pipes

Flexible or Rigid Walls $\geq 75\text{mm}$ – Lined/Unlined – Insulated/Uninsulated					
					Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Metal Pipe</u> 3. <u>Flexible Wall</u> 4. <u>Stone Wool Insulation</u> 5. <u>Backing Material</u>
Penetration Service	Depth (mm)	Maximum Annular (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Copper/Steel Pipe 159mm Ø, 2-14.2mm wall thickness insulated with stone wool $\geq 50\text{mm}$ thick, $\geq 90\text{kg/m}^3$ (C/S)	10	10	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60 C/U, C/C, EI 45 C/U, C/C

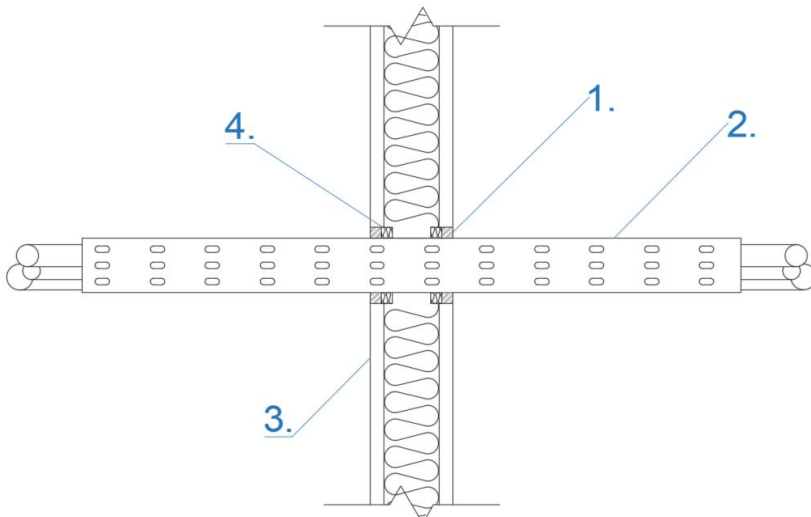


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Cable trays

Flexible or Rigid Walls $\geq 75\text{mm}$ – Lined/Unlined – Insulated/Uninsulated					
					Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Cable Tray</u> 3. <u>Flexible Wall</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Maximum Aperture Size (mm) (h x w)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel cable tray $\leq 450\text{mm}$ wide loaded with cables $\leq 21\text{mm}$ $\varnothing$ + C1, C2, C3 cables*	10	470 x 100	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60, EI 20
Steel cable tray $\leq 450\text{mm}$ wide loaded with cables $\leq 21\text{mm}$ $\varnothing$ + C1, C2, C3 cables* with insulation $\leq 40\text{mm}$ thick $\leq 45\text{kg/m}^3$, $\leq 400\text{mm}$ either side of the wall (L/I)	10	470 x 100	PE backing rod, glass wool, stone wool or ceramic wool	0	EI 45

* As defined in EN 1366-3: 2009, Annex A

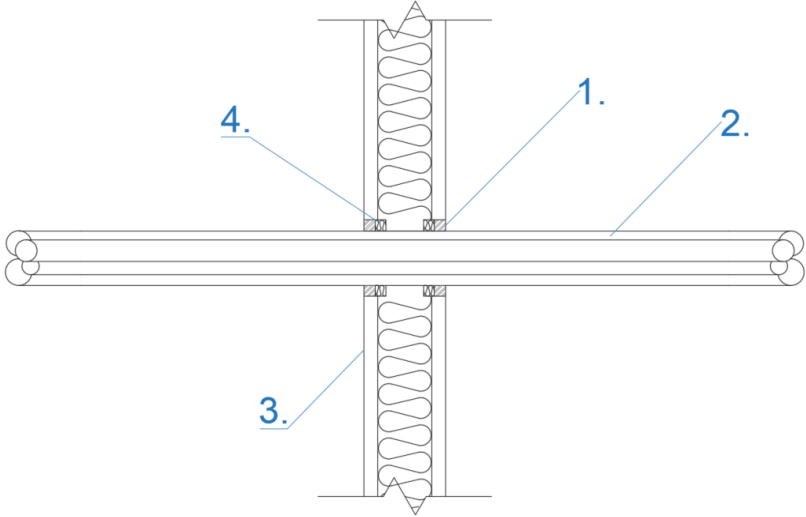


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Cable bunches

Flexible or Rigid Walls $\geq 75\text{mm}$ – Lined/Unlined – Insulated/Uninsulated					
					Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Single Bunch</u> 3. <u>Flexible Wall</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Telecoms cables $\leq 21\text{mm } \varnothing$ in cable bunch $\leq 100\text{mm } \varnothing$	10	120 $\varnothing$	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60, EI 45



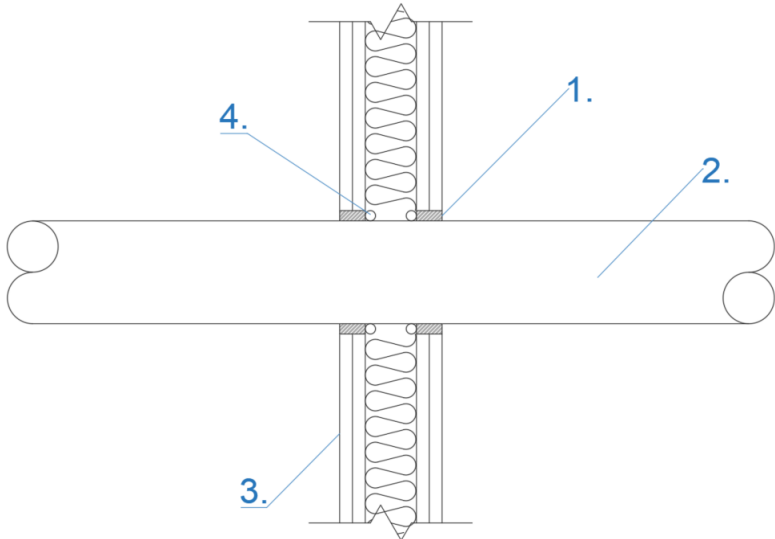
Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Flexible or Rigid Walls Minimum Thickness 100mm

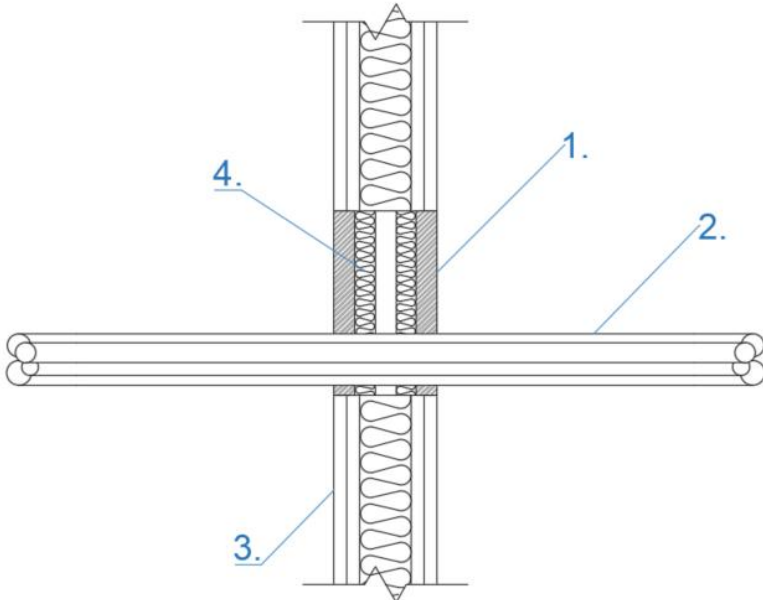
Metallic pipes

Flexible or Rigid Walls ≥100mm				
				<u>Key</u> 1. <u>Pyrocoustic® Sealant</u> 2. <u>Metallic Pipe</u> 3. <u>Flexible Wall</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Annular (mm)	Backing Material	Classification
Steel pipe 42mm Ø, 2.8 – 14.2mm wall thickness	25	10	PE backing rod, glass wool, stone wool or ceramic wool	E 120 C/U, C/C, EI 45 C/U, C/C
Steel pipe 42 – 114mm Ø, 3 – 14.2mm wall thickness				E 120 C/U, C/C, EI 20 C/U, C/C



Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Cables and conduits

Flexible or Rigid Walls ≥100mm – Lined/Unlined – Insulated					
					Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Cables</u> 3. <u>Flexible Wall</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Cable bunch ≤100mm Ø	20	180 x 180	Stone wool or ceramic wool (20mm 45kg/m³)	10	EI 120
PVC conduits ≤16mm Ø					EI 120
Steel/Copper conduits ≤16mm Ø					E 120, EI 20
Cables ≤50mm Ø					E 90, EI 60
Cables ≤21mm Ø					EI 120



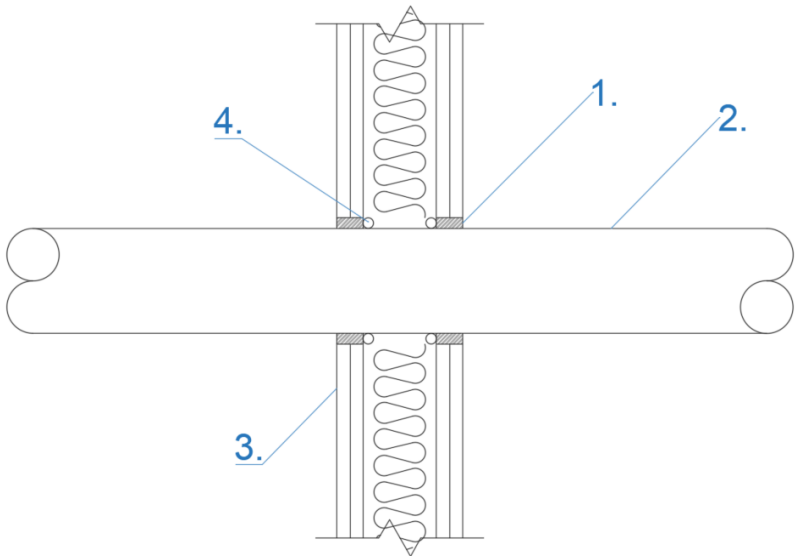
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Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Flexible or Rigid Walls Minimum Thickness 120mm

Metal pipes

Flexible or Rigid Walls $\geq 120\text{mm}$ – Lined/Unlined – Insulated				
				Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Metal Pipe</u> 3. <u>Flexible Wall</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Annular Space (mm)	Backing Material	Classification
Copper/Steel pipe 15-40mm Ø, 0.8 – 14.2mm wall thickness	25	10	PE backing rod, glass wool, stone wool or ceramic wool	E 120 C/U, C/C, EI 15 C/U, C/C
Copper/Steel pipe 40-159mm Ø, 1.8 – 14.2mm wall thickness				E 120 C/U, C/C
Copper/Steel pipe 40mm Ø, 0.8 – 14.2mm wall thickness insulated with FSi TDW to both sides of the wall at 300mm (L/I)				E 120 C/U, C/C, EI 90 C/U, C/C
Copper/Steel pipe 40-159mm Ø, 1.8 – 14.2mm wall thickness insulated with FSi TDW to both sides of the wall at 300mm (L/I)				E 120 C/U, C/C, EI 20 C/U, C/C



Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Cable trays

Flexible or Rigid Walls $\geq 120\text{mm}$ – Lined/Unlined – Insulated					
					Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Cable Tray/Cables</u> 3. <u>Flexible Wall</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Maximum Aperture Size (mm) (w x h)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel cable tray $\leq 450\text{mm}$ wide loaded with cables $\leq 21\text{mm } \varnothing$	25	490 x 100	Stone wool or ceramic wool ($\geq 35\text{mm}$ $\geq 80\text{kg/m}^3$)	20	E 120, EI 90
C1, C2, D1 and D2 Cables*	25	200 x 100	PE backing rod, glass wool, stone wool or ceramic wool	20	E 90, EI 60

* As defined in EN 1366-3: 2009, Annex A



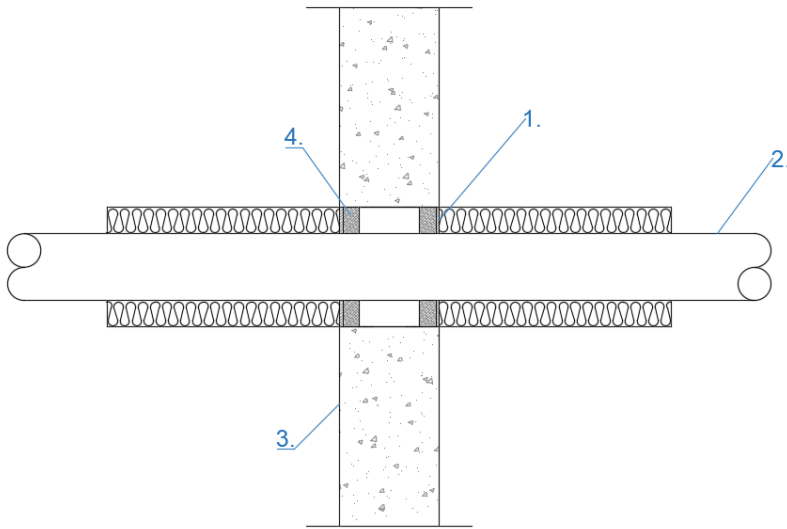
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Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Rigid walls Minimum Thickness 150mm

Metal pipes

Rigid Walls $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$					
					Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Metal Pipe</u> 3. <u>Rigid Wall</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Maximum Aperture Size	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Copper/Steel pipe 35 -159mm Ø, 2 – 14.2mm wall thickness insulated with stone wool 50mm thick 100kg/m ³ (C/I)	5	Pipe Ø + 55mm	PE backing rod, glass wool, stone wool or ceramic wool	0	EI 240 C/U, C/C

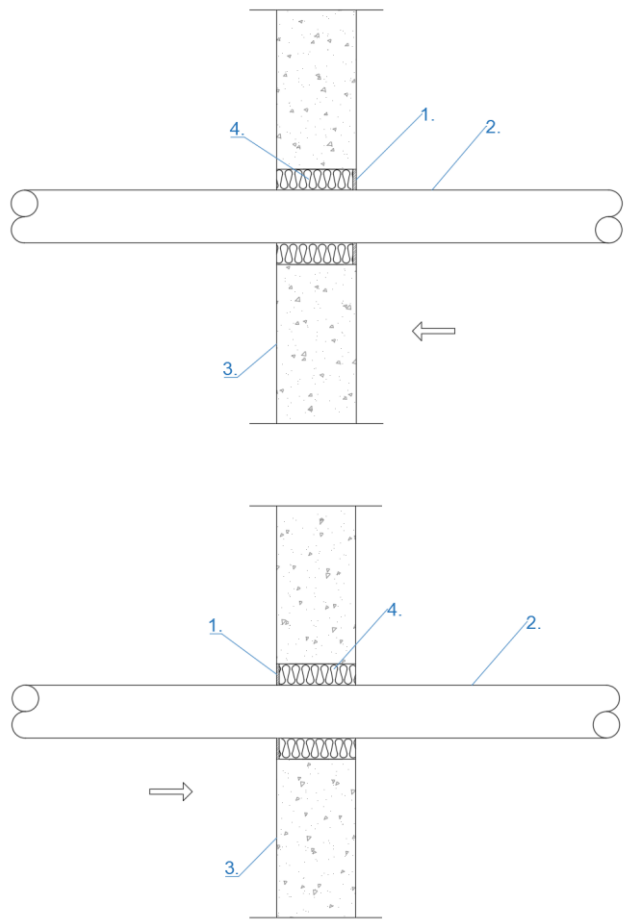


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Metal pipes with single sided access

Rigid Walls $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$					
				Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Metal Pipe</u> 3. <u>Rigid Wall</u> 4. <u>Backing Material</u>	
Penetration Service	Depth (mm)	Maximum Aperture Size	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel pipe 40 -152mm Ø, 2.5 – 14.2mm wall thickness	6	Pipe Ø + 50mm	Stone wool or ceramic wool ($\geq 144\text{mm}$ $\geq 80\text{kg/m}^3$)	0	E 240 C/C
Steel pipe 40mm Ø, 1.5 – 14.2mm wall thickness	6	Pipe Ø + 50mm	Stone wool or ceramic wool ($\geq 144\text{mm}$ $\geq 80\text{kg/m}^3$)	0	E 240 C/C, EI 120 C/C



Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Rigid Floors Minimum Thickness 150mm

Metal pipes

Rigid Floors $\geq 150\text{mm}$ with a density of $\geq 650\text{kg/m}^3$					
					Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Metal Pipe</u> 3. <u>Rigid Floor</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Copper/Steel pipe 42 – 159mm Ø, 1 – 14.2mm wall thickness	5	200 x 200	Stone wool or ceramic wool ($\geq 145\text{mm}$ $\geq 45\text{kg/m}^3$)	20	E 180 C/U, C/C
Copper/Steel pipe 42mm Ø, 1 – 14.2mm wall thickness					E 240 C/U, C/C

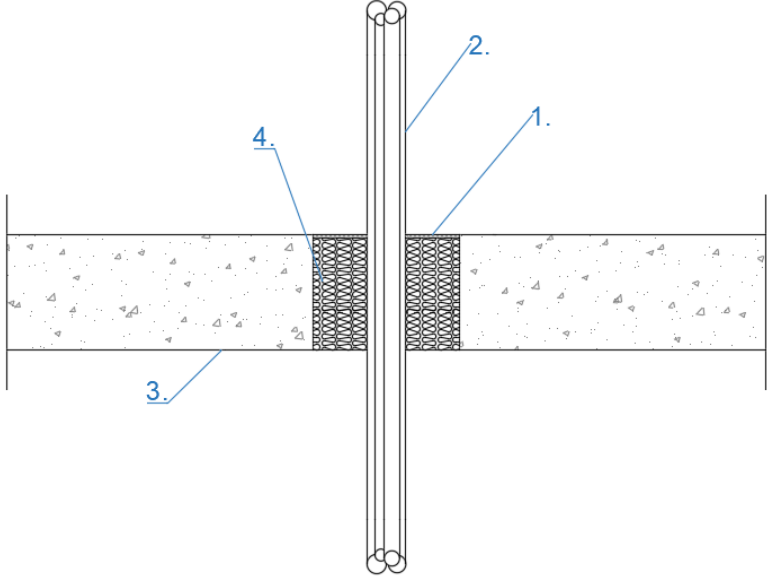


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Cables

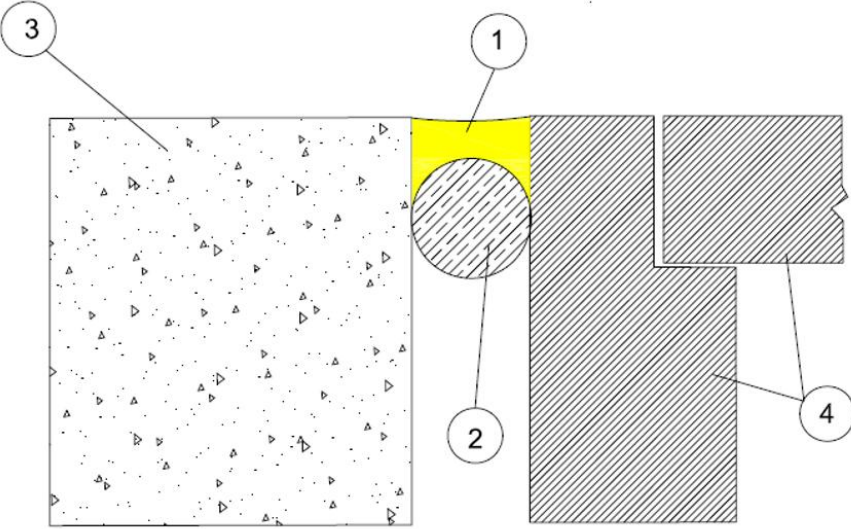
Rigid Floors ≥150mm with a density of ≥650kg/m³					
					Key 1. <u>Pyrocoustic® Sealant</u> 2. <u>Cables</u> 3. <u>Rigid Floor</u> 4. <u>Backing Material</u>
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Telecoms cables ≤21mm Ø in cable bunch ≤100mm Ø	5	200 x 200	Stone wool or ceramic wool (≥145mm ≥45kg/m³)	0	E 45, EI 15
PVC conduits ≤16mm Ø					E 45, EI 15
Steel/Copper conduits ≤16mm Ø					E 45, EI 15
Cables ≤80mm Ø					E 90, EI 45
Cables ≤50mm Ø					E 90, EI 45
Cables ≤21mm Ø					E 240, EI 90



Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Annex A – Normative

Typical Installation of Pyrocoustic Sealant between a block / concrete wall and wooden door frame single side.

						Key 1. <u>Pyrocoustic Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Wall</u> 4. <u>Wooden FR Door & Frame</u>		
Substrate	Minimum wall Thickness (mm)	Maximum Gap Size (mm)*	Seal Position	Minimum Seal Depth (mm)	Backing Material	Minimum Backing Depth (mm)	Fire Resistance (mins.)	
							E	EI
Concrete/ timber	100	30	One Side	10	PE backing rod, stone wool or FR Foam	30	30	30

*Wider seals in the above configuration, maintaining the 2:1 ratio are also capable of providing EI 30, when subject to the following limitations:

- Seal width to depth ratio = 2:1 or better (squarer)
- Door frame to be mechanically fixed to the wall as per test evidence/manufacture's instructions
- Door frame to be softwood or hardwood with minimum density 410 kg/m³
- Door frame section to be minimum 25 mm (plus stop in addition)
- Doorset to be proven to provide at least 30 minute integrity and insulation performance in accordance with EN 1634-1.



Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Typical Installation of Pyroacoustic Sealant between a block / concrete wall and wooden door frame single side.

						Key 1. <u>Pyroacoustic Sealant</u> 2. <u>Backing Material</u> 3. <u>Rigid Wall</u> 4. <u>Wooden FR Door & Frame</u> 5. <u>Timber architrave 12 mm thick (min.)</u> 6. <u>10 mm (min.) deep stonewool 80kg/m³ (min.)</u>		
Substrate	Minimum wall Thickness (mm)	Maximum Gap Size (mm)*	Seal Position	Minimum Seal Depth (mm)	Backing Material	Minimum Backing Depth (mm)	Fire Resistance (mins.)	
							E	EI
Concrete/ timber	100	30	One Side	10	PE backing rod, stone wool or FR Foam	30	60	60

*Wider seals in the above configuration, maintaining the 2:1 ratio are also capable of providing EI 60 when subject to the following limitations:

- Seal width to depth ratio = 2:1 or better (squarer)
- Door frame to be mechanically fixed to the wall as per test evidence/manufacturer's instructions
- Door frame to be hardwood with minimum density 620 kg/m³
- Door frame section to be minimum 30 mm (plus stop in addition)
- Doorset to be proven to provide at least 60 minute integrity and insulation performance in accordance with EN 1634-1.

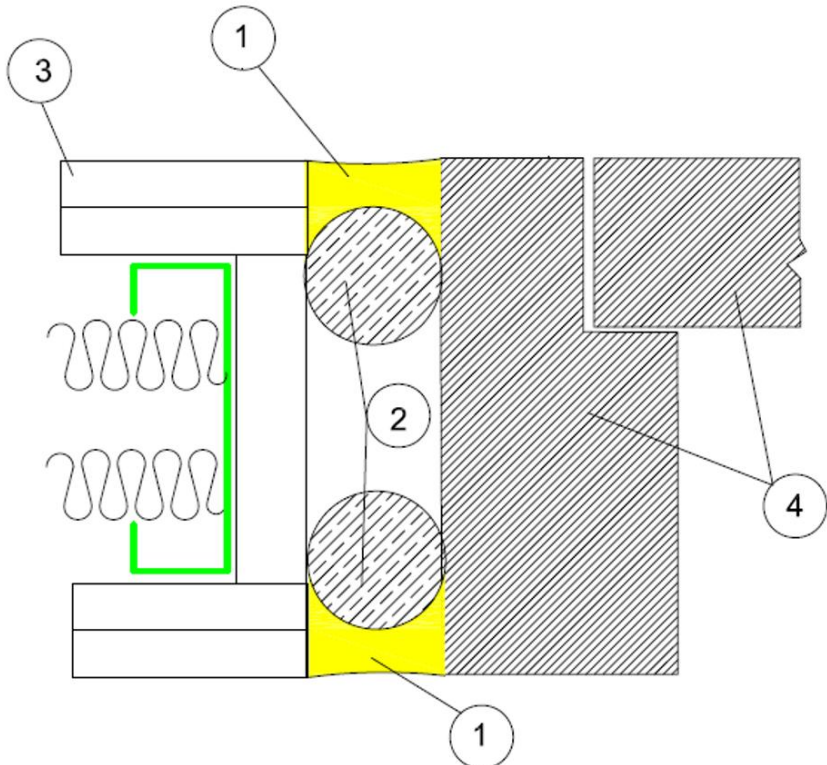


Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

Typical Installation of Pyrocoustic Sealant between a flexible wall and wooden door frame both sides.

						Key 1. <u>Pyrocoustic Sealant</u> 2. <u>Backing Material</u> 3. <u>Flexible Wall</u> 4. <u>Wooden FR Door & Frame</u>		
Substrate	Minimum wall Thickness (mm)	Maximum Gap Size (mm)*	Seal Position	Minimum Seal Depth (mm)	Backing Material	Minimum Backing Depth (mm)	Fire Resistance (mins.)	
							E	EI
Gypsum board/ softwood	120	30	Both Sides	10	PE backing rod, stone wool or FR Foam	30	30	30
Gypsum board/ hardwood							60	60

*Wider seals in the above configuration, maintaining the 2:1 ratio are also capable of providing up to EI 60 when subject to the following limitations:

- Seal width to depth ratio = 2:1 or better (squarer)
- Door frame to be mechanically fixed to the wall as per test evidence/manufacture's instructions
- 30 minute door frame to be softwood with minimum density 410 kg/m³
- 60 minute door frame to be hardwood with minimum density 620 kg/m³
- 30 minutes door frame section to be minimum 25 mm (plus stop in addition)
- 60 minutes door frame section to be minimum 30 mm (plus stop in addition)
- Doorset to be proven to provide at least 30 or 60 minute integrity and insulation performance (as required) in accordance with EN 1634-1.



Solutions

Form-ULID-006104 V10.0

Appendix UL-EU CERTIFICATE UL-EU-00500-EN

The UL-EU Marks, displayed below represent the enhanced and alternate version of the product marking. Either Mark can be used. These Marks shall appear on certified products only. Minimum size is not specified, as long as the Mark is legible. The following is suggested.



*Note: E12345 is an example of the UL file number.

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 and UL File 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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