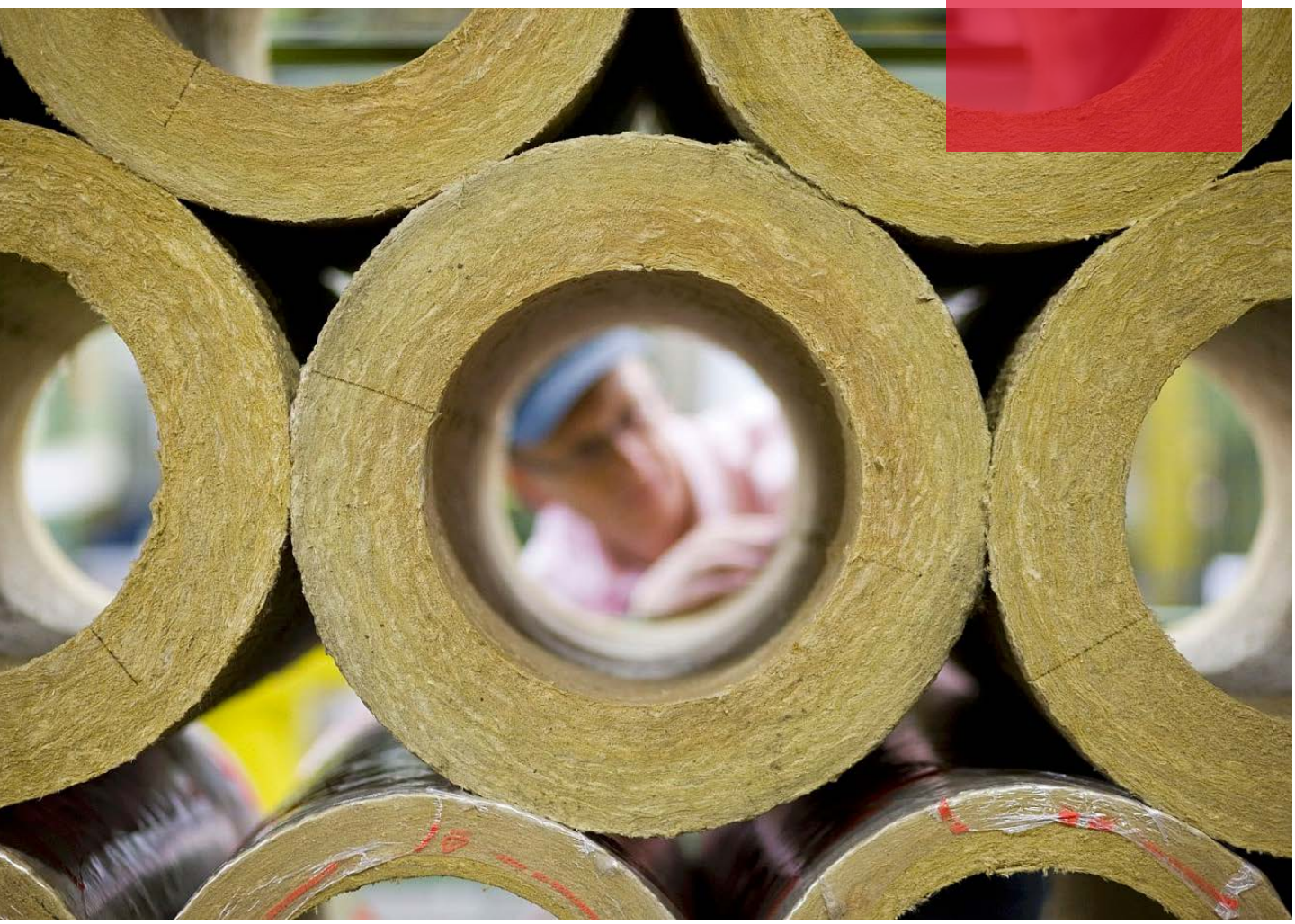
RockLap H&V Pipe Sections

For rapid, efficient pipework insulation

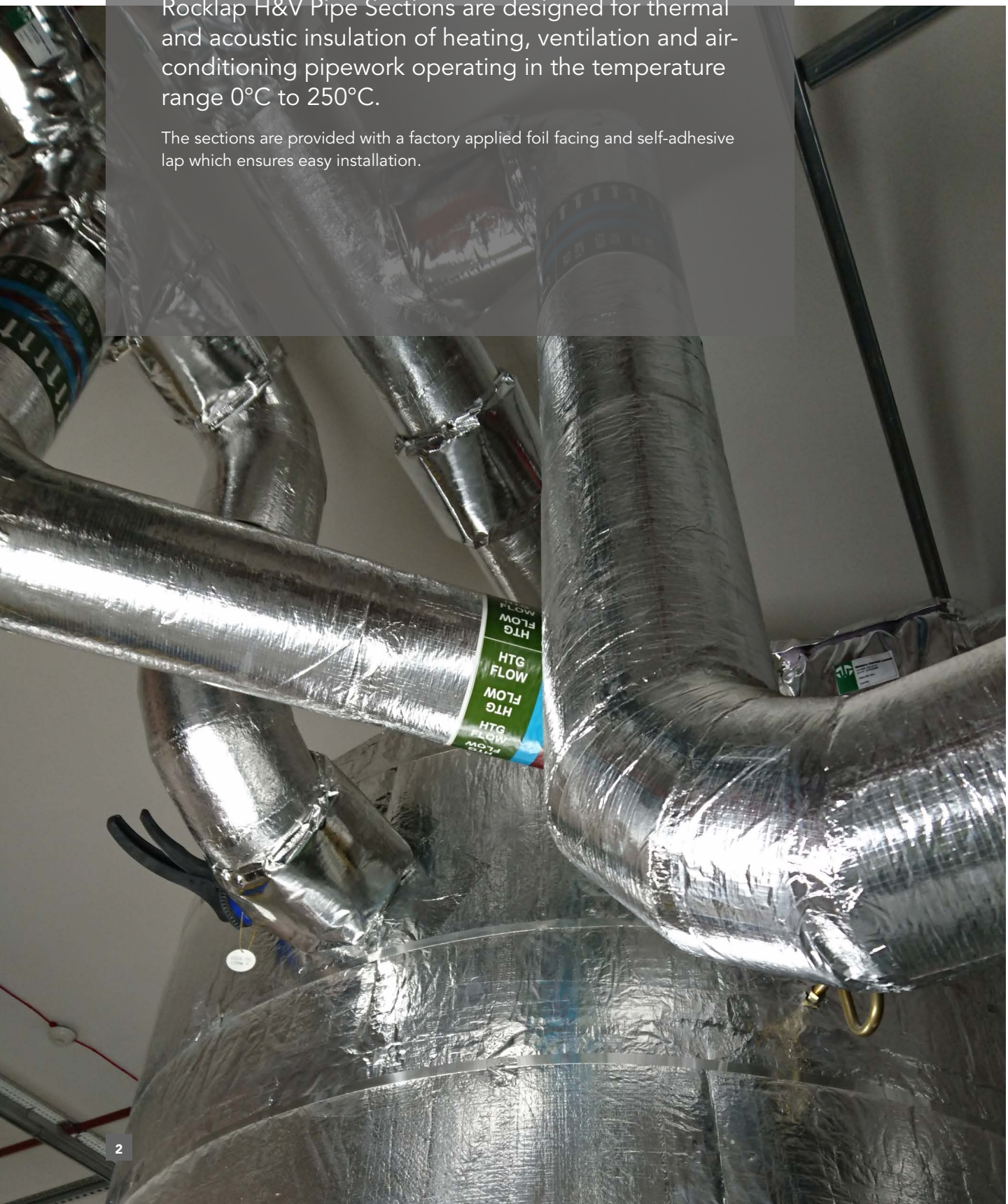


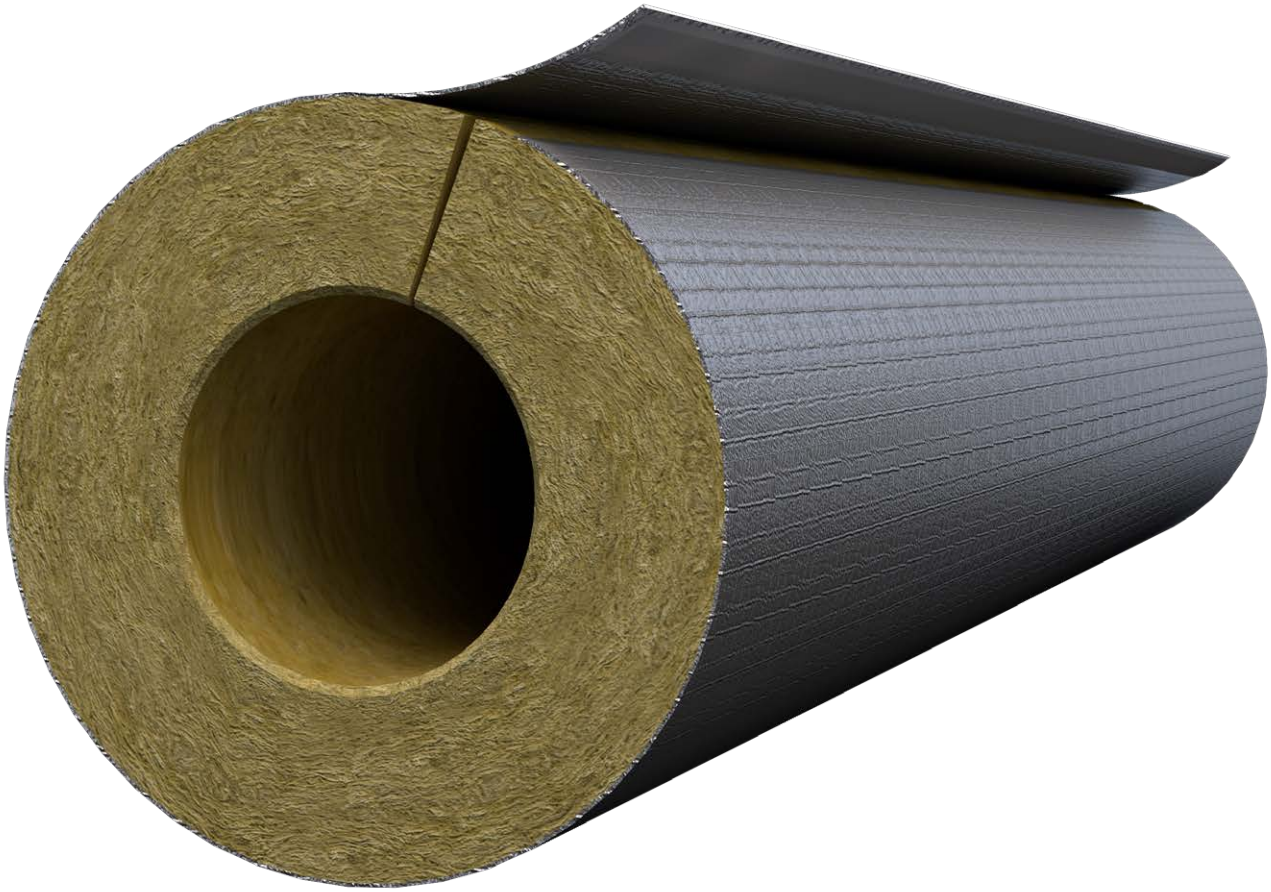
ROCKWOOL®

RockLap H&V Pipe Sections

Rocklap H&V Pipe Sections are designed for thermal and acoustic insulation of heating, ventilation and air-conditioning pipework operating in the temperature range 0°C to 250°C.

The sections are provided with a factory applied foil facing and self-adhesive lap which ensures easy installation.





Description

RockLap H&V Sections are pre-formed sections of stone wool insulation. Manufactured pre-slit and provided with a factory applied foil facing complete with integral self-adhesive lap.

Sizes available:
Please see the table on page 6.

Advantages

- Resilient, high performance barrier provided by one-piece, reinforced foil with integral lap
- Fast and simple installation reduces costs and time on site
- Tape requirement reduced
- Tested to EN 1366-3, for the fire resistance of penetration seals offering up to EI 120

Applications

RockLap H&V Pipe Sections are strong lengths of pre-formed insulation with a one piece, factory applied foil facing with integral self-adhesive lap. The integral lap ensures fast and easy installation: just snap the sections onto the pipe, peel off the backing tape and smooth down for a completely sealed joint.

ROCKWOOL H&V Pipe Sections have been successfully tested for providing fire stopping to steel & copper pipe penetrations where they penetrate fire resistant walls and floors.

The H&V pipe sections are suitable for use within fire rated flexible/rigid walls and concrete floors either as sleeving (*Locally sustained – L/S) where they penetrate the division or with continuous insulation (*Continually sustained – C/S) along the length of the pipework.

This allows for H&V pipe sections used for thermal insulation to pipework to be continued through fire resistant constructions without the need to be locally removed or replaced thus saving time and reducing labour costs.

Performance

Standards and approvals

ROCKWOOL H&V Pipe Sections are CE marked in accordance with BS EN 14303. For more information please visit **www.rockwool.co.uk/DOP**

RockLap H&V Pipe Sections conform to BS 3958–4, 'Bonded preformed stone wool pipe sections' and can be used to satisfy BS 5422: 'Method for specifying thermal insulating materials...'.

The product has been authorised for use in LUL surface and sub-surface premises when installed in accordance with this data sheet – please refer to the LUL Approved Product Register website **www.LU-apr.co.uk** for specific details.

Thermal

The specific heat of ROCKWOOL stone wool is 0.84 kJ/kgK (nom.) at 20°C.

Temperature °C	*Curve 1 (W/mK)	*Curve 2 (W/mK)
10	0.033	0.034
50	0.037	0.039
100	0.044	0.048
150	0.052	0.056

*The thermal conductivity curve used depends upon the size of the pipe section. For further information please refer to the DOP.

Note: Due to the low emissivity of aluminium, heat losses, which depend upon the diameter, thickness and temperature of the pipe to be insulated, are reduced by approx. 9% by using aluminium faced sections compared with painted or PVC faced sections.

Consider a 169 mm O.D. hot water pipe running at 75°C with an ambient temperature of 15°C insulated with 50 mm thick RockLap H&V Pipe Section:

Cladding type	Emissivity (ε)	Outer surface temp (°C)	Heat loss (W/m)
Aluminium	0.05	24.4	27
Cloth	0.90	19.5	29

Product information

Table 8 (BS5422:2009)

Minimum thickness of ROCKWOOL RockLap H&V to prevent condensation.
Taken from BS 5422 Table 8, ambient air temperature 25°C, 80% rh, ε=0.05

Outside diameter of steel pipe on which insulation has been based (mm)	Temperature of contents (°C)					
	Temperature of contents +10°C		Temperature of contents +5°C		Temperature of contents 0°C	
	Calculated thickness (mm)	Advised thickness (mm)	Calculated thickness (mm)	Advised thickness (mm)	Calculated thickness (mm)	Advised thickness (mm)
17	16	20	22	25	28	30
21	17	20	24	25	30	35
27	19	20	26	30	33	35
33	20	25	27	30	35	35
42	21	25	30	30	37	40
48	22	25	31	35	39	40
60	24	25	33	35	42	45
76	26	30	36	40	44	45
89	27	30	37	40	47	50
102	28	30	39	40	49	50
114	29	30	40	40	51	55
140	31	35	42	45	53	55
169	32	35	45	45	57	60
219	34	35	48	50	61	65
245	36	40	50	50	63	65
273	37	40	51	55	65	65
324	38	40	53	55	68	70
356	39	40	54	55	70	70
406	40	45	56	60	72	75
456	41	45	58	60	75	75
508	42	45	60	60	77	80
558	44	45	61	65	78	80
610	45	45	63	70	80	90

Table 15 (BS5422:2009)

Indicative thickness of insulation for non-domestic heating services to control heat loss – low emissivity outer surfaces (ε=0.05).

Outside diameter of steel pipe on which insulation has been based (mm)	Hot face temperature (°C) Thickness of ROCKWOOL RockLab H&V Pipe Section (mm)								
	75			100			125		
	Calculated thickness (mm)	Advised thickness (mm)	Heat loss (W/m)	Calculated thickness (mm)	Advised thickness (mm)	Heat loss (W/m)	Calculated thickness (mm)	Advised thickness (mm)	Heat loss (W/m)
17.2	28	30	8.9	28	30	13.34	29	30	17.92
21.3	32	35	9.28	34	35	13.56	35	35	18.32
26.9	35	35	10.06	43	45	13.83	43	45	18.7
33.7	37	40	11.07	50	50	14.39	54	55	19.02
42.4	39	40	12.3	54	55	15.66	67	70	19.25
48.3	41	45	12.94	55	55	16.67	70	70	20.17
60.3	43	45	14.45	59	60	18.25	75	75	21.96
76.1	45	45	16.35	62	65	20.42	80	80	24.21
88.9	46	50	17.91	64	65	22.09	83	85	25.99
114.3	48	50	20.77	68	70	25.31	89	90	29.32
139.7	49	50	23.71	70	75	28.23	93	95	32.47
168.3	50	50	26.89	73	75	31.61	96	100	36.04
219.1	51	55	32.54	75	75	37.66	100	100	42.16
273	51	55	38.83	77	80	43.72	103	105	48.48

Note 1 - Insulation thicknesses in this table have been calculated according to BS EN ISO 12241:2008 using standardised assumptions: horizontal pipe in still air at 15°C, emissivity of outer surface of insulated system as specified.

Note 2 - Heat loss relates to the specified thickness and temperature.

Note 3 - The thicknesses in this table are applicable to pipes serving commercial solar hot water panels.

Table 17 (BS5422:2009)

Indicative thickness of insulation for non-domestic hot water service areas to control heat loss – Low emissivity outer surface (ε=0.05).

Outside diameter of steel pipe on which insulation has been based (mm)	Thickness of ROCKWOOL RockLap H&V Pipe Section (mm)		Heat loss / Wm^{-1}
	Calculated thickness (mm)	Advised thickness (mm)	
17.2	26	30	6.6
21.3	28	30	7.13
26.9	30	30	7.83
33.7	32	35	8.62
42.4	33	35	9.72
48.3	34	35	10.21
60.3	36	40	11.57
76.1	38	40	13.09
88.9	38	40	14.58
114.3	39	40	17.2
139.7	40	40	19.65
168.3	41	45	22.31
219.1	41	45	27.52
273	42	45	32.4

Note 1 - Insulation thicknesses in this table have been calculated according to BS EN ISO 12241:2008 using standardised assumptions: horizontal pipe at 60°C in still air at 15°C, emissivity of outer surface of insulated system as specified.

Note 2 - Heat loss relates to the specified thickness and temperature.

Fire

RockLap H&V Pipe Sections are rated Euroclass A2L*-s1,d0.

RockLap H&V Pipe Sections have been tested for fire resistance to EN 1366-3, the harmonised European standard for the fire resistance of penetration seals.

RockLap H&V Pipe Sections provide up to 120 minutes fire resistance integrity and insulation ratings.

*Classifications for linear pipe thermal insulation products are followed by the sub-index 'L' (for example, A2L).

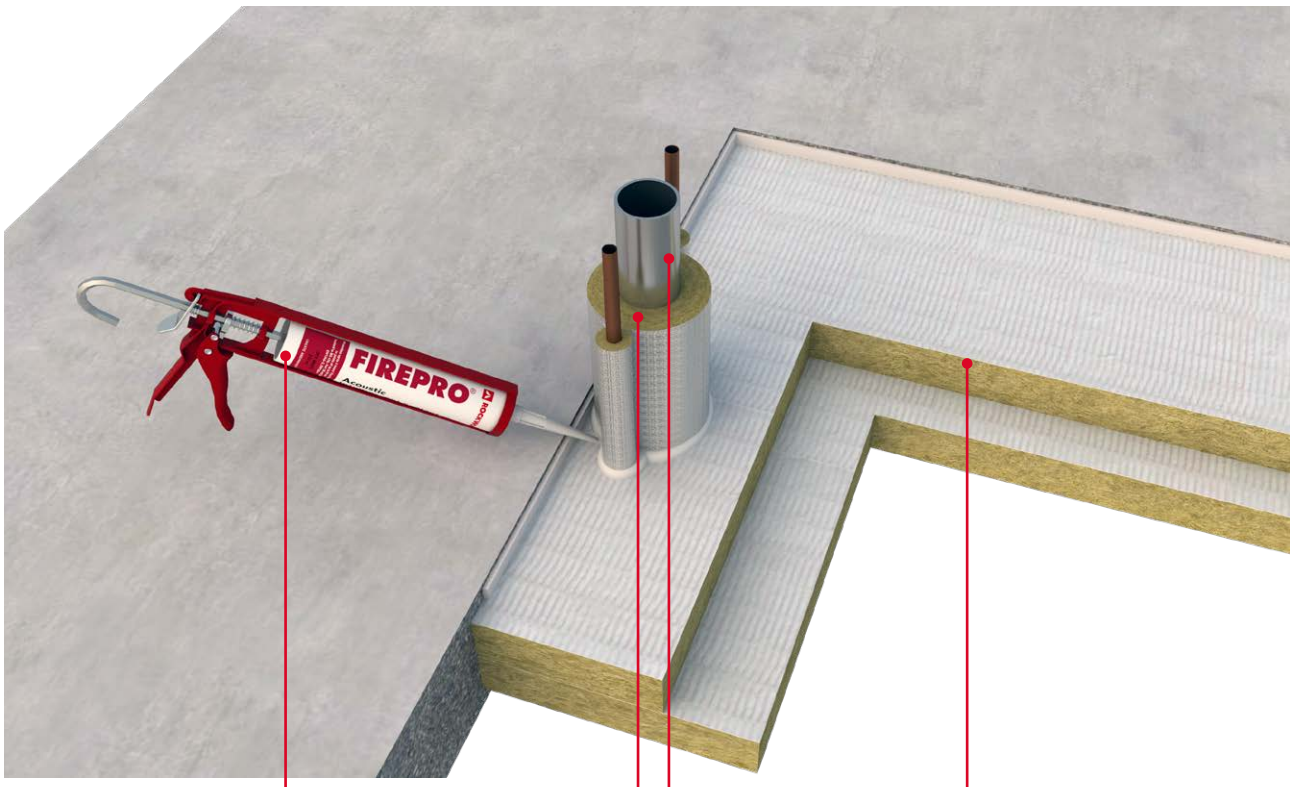


Table 1

Performance of Insulated Steel & Copper Pipework in 150mm Aerated Concrete Floors

Insulation thickness (mm)	Pipe dia range (mm)	Formation	Substrate	Service seperation (mm)	Substrate seperation (mm)	Fire resistance (min)			
						Locally sustained (L/S)		Continuously sustained (C/S)	
						Integrity (E)	Insulation (I)	Integrity (E)	Insulation (I)
25mm H&V	42 - 169*	Cluster*	2 x 50mm Ablative Coated Batt	0	0	240	120	240	120
25mm H&V	42 - 219	Single	2 x 50mm Ablative Coated Batt	100	0	240	90	240	90
40mm H&V	42 - 169*	Cluster*	2 x 50mm Ablative Coated Batt	0	0	180	60	180	120
40mm H&V	42 - 219	Single	2 x 50mm Ablative Coated Batt	100	0	180	120	180	120

*Std Cluster 40mm - 108mm Copper & 169mm Steel

RockLap H&V Pipe Sections Ancillaries

- FIREPRO® Acoustic Intumescent Sealant, Ablative Coated Batt & Firestop Compound are available from ROCKWWOOL stockists
- RockLap Pipe Supports are suitable for use with RockLap H&V pipe sections and are available from all ROCKWOOL stockists
- Suitable aluminium foil tape is available from specialist HVAC stockists

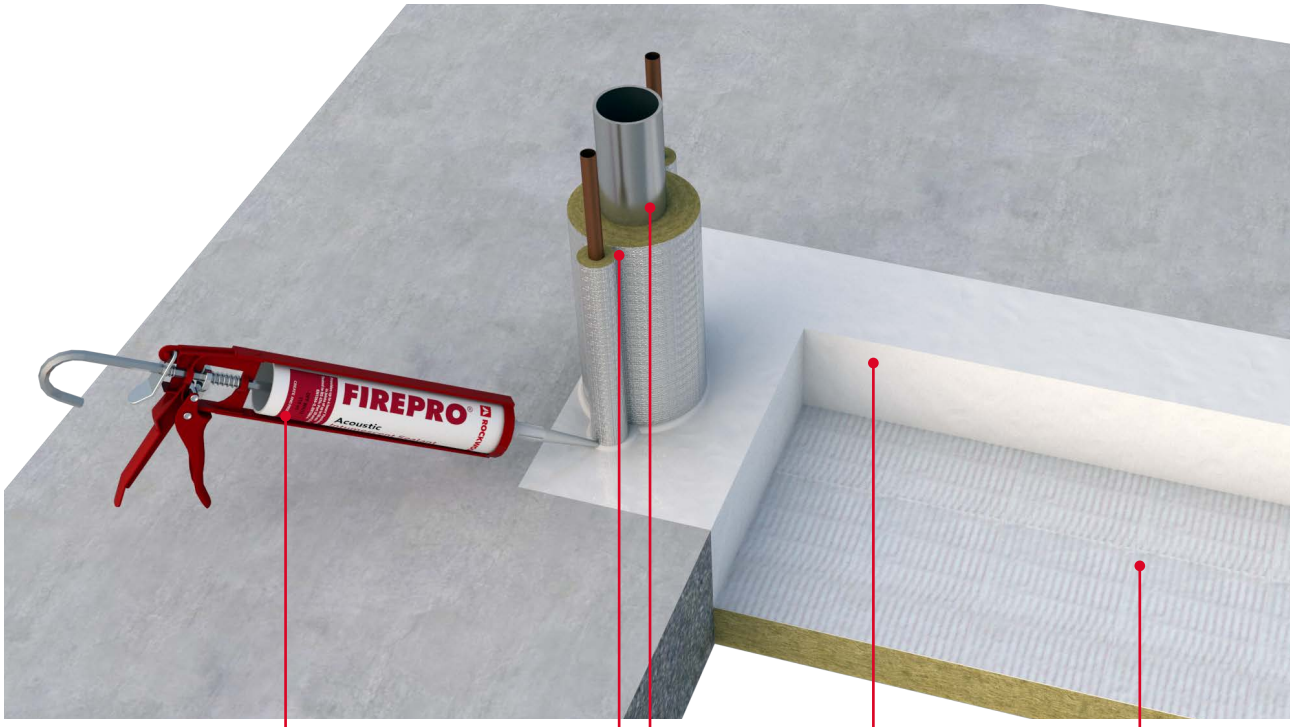


Table 2

Insulation thickness (mm)	Pipe dia range (mm)	Formation	Substrate	Service seperation (mm)	Substrate seperation (mm)	Fire resistance (min)			
						Locally sustained (L/S)		Continuously sustained (C/S)	
						Integrity (E)	Insulation (I)	Integrity (E)	Insulation (I)
25mm H&V	42 - 169	Cluster*	100mm HS Compound & 50mm ACB Shuttering	0	0	180	90	180	120
40mm H&V	42 - 169	Cluster*	100mm HS Compound & 50mm ACB Shuttering	0	0	240	60	240	180

*Std Cluster 40mm - 108mm Copper & 169mm Steel

Table 3

Performance of Steel & Copper Pipework in Flexible Wall (minimum 75mm) - Ablative Coated Batt (ACB)

Insulation thickness (mm)	Pipe dia range (mm)	Formation	Aperture	Service type	Service / substrate seperation (mm)	Supporting construction	Classification E/I
> 25mm H&V	40 - 168*	Cluster	1 x 50mm ACB	Steel/ Copper	0	75mm flexible wall	60/60

Table 4

Performance of Steel Pipework in Solid Wall (minimum 100mm) - Ablative Coated Batt (ACB)

Insulation thickness (mm)	Pipe dia range (mm)	Formation	Aperture	Service type	Service / substrate seperation (mm)	Supporting construction	Application	Classification E/I
> 40mm H&V	< 610mm	Single	2 x 50mm ACB	Steel	100/0	100mm aerated block	Locally sustained (L/S)	120/90
> 40mm H&V	< 610mm	Single	2 x 50mm ACB	Steel	100/0	100mm aerated block	Continuously Sustained (C/S)	120/120

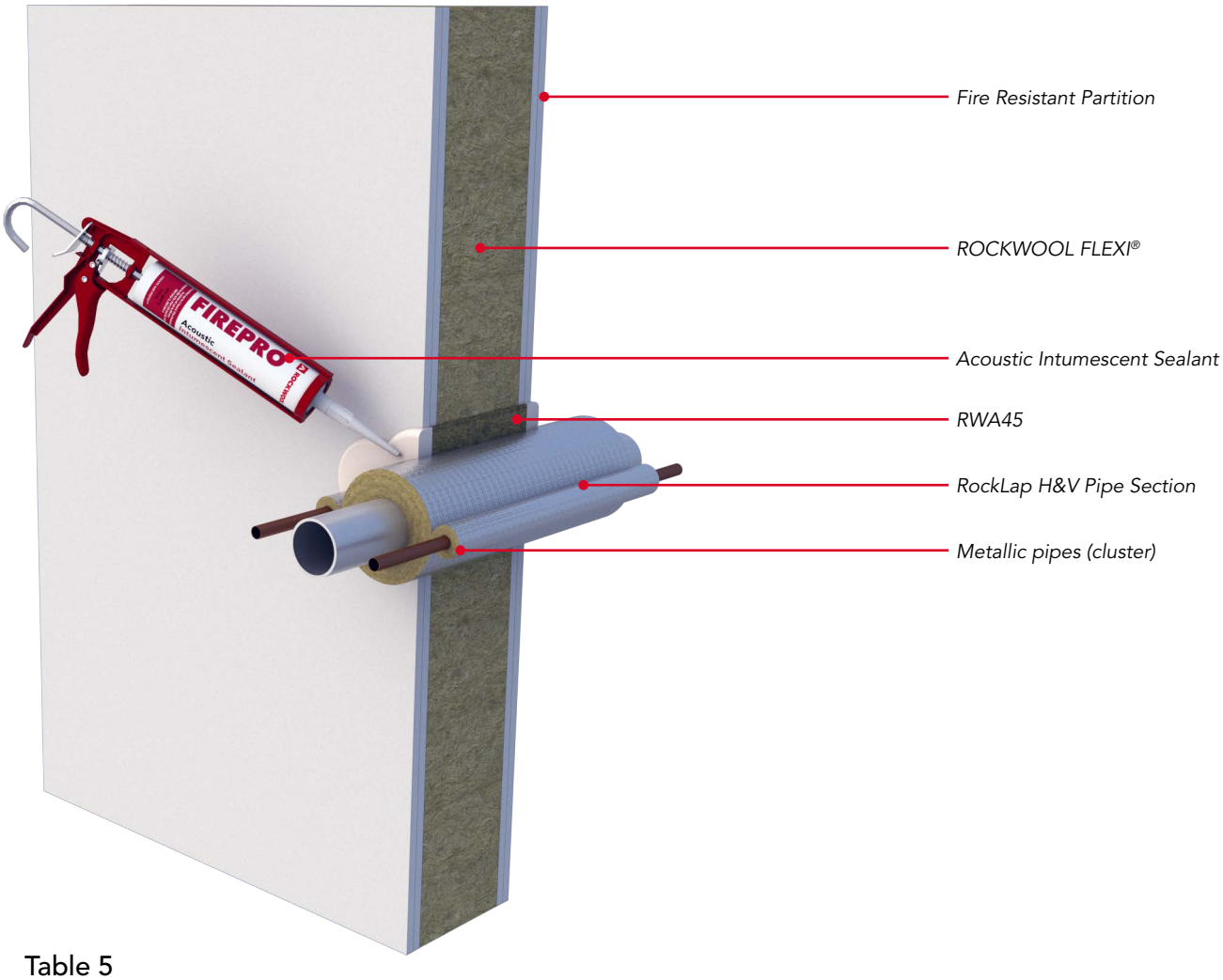


Table 5

Performance of Steel & Copper Pipework in Flexible and Solid Wall - Directly through fire rated wall construction

Insulation thickness (mm)	Pipe dia range (mm)	Formation	Aperture	Service type	Annular gap	Service/ substrate seperation (mm)	Classification					
							Locally sustained (L/S)			Continuously sustained (C/S)		
							Integrity (E)	Insulation (I)	E/I	Integrity (E)	Insulation (I)	E/I
> 20mm H&V	15	Single	Direct	Copper	<10mm *	0	120	120	120/120	120/120	120	120/120
> 20mm H&V	60	Single	Direct	Steel	<10mm*	0	120	120	120/120	120/120	120	120/120
> 20mm H&V	15	Single	Direct	Copper	<10mm *	0	120	120	120/120	120/120	120	120/120
> 25mm H&V	15	Single	Direct	Copper	11-50mm**	0	120	120	120/120	120	120	120/120
> 25mm H&V	16-108	Single	Direct	Copper	<10mm*	0	120	60	120/120	120	120	120/120
> 25mm H&V	16-108	Single	Direct	Copper	11-50mm**	0	120	90	120/120	120	120	120/120
> 25mm H&V	16-108	Cluster	Direct	Copper	< 50mm**	0	120	60	120/120	120	120	120/120
> 25mm H&V	114	Single	Direct	Steel	<10mm*	0	120	90	120/120	120	120	120/120
> 25mm H&V	114	Single	Direct	Steel	11-50mm**	0	120	90	120/90	120	120	120/120
> 25mm H&V	114-219	Single	Direct	Steel	<10mm*	0	90	90	90/90	90	120	120/120
> 25mm H&V	114-219	Single	Direct	Steel	11-50mm**	0	120	60	120/60	120	120	120/120
> 25mm H&V	15-114	Cluster	Direct	Steel	< 50mm**	0	120	120	120/120	120	120	120/120

* < 10mm = annular space sealed with AIS through full wall thickness
** 11-50mm Annular space filled with RWA45 and finished with 12.5mm AIS

Other product properties

Water resistance

RockLap H&V Pipe Sections are water repellent. However, when used or stored in the open, the insulation should be protected with a waterproof covering. When used to insulate cold pipes, the joints should be sealed with foil tape to prevent condensation.

Service temperature

RockLap H&V Pipe Sections are used to insulate pipes operating at temperatures in the range 0 to 250°C. The sections are used to insulate against frost damage. For hot pipes, the limiting temperature of the outer foil face is 80°C to maintain facing bond strength.

pH neutrality

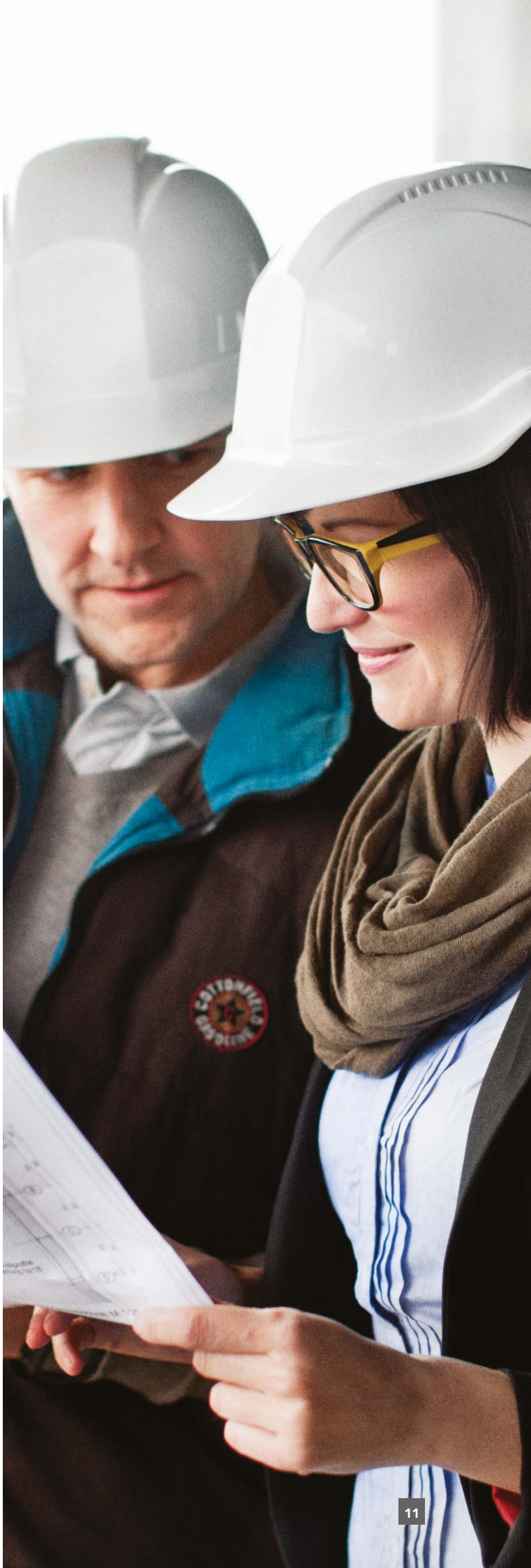
ROCKWOOL insulation is chemically compatible with all types of pipes, equipment and fittings. (Guidance is given in BS 5970 regarding the treatment of austenitic stainless-steel pipework and fittings). Stone wool insulation is chemically inert. A typical aqueous extract of ROCKWOOL insulation is neutral or slightly alkaline (pH 7 to 9.5).

Durability

ROCKWOOL stone wool insulation products are highly resilient, durable and dimensionally stable, maintaining their thickness and shape over time. In tests, ROCKWOOL insulation has shown to retain its insulation characteristics and properties for more than 55 years after initial installation.

Biological

ROCKWOOL stone wool is a naturally inert and rot-proof material that does not encourage or support the growth of fungi, moulds or bacteria, or offer sustenance to insects or vermin.



Installation

RockLap H&V Pipe Sections are supplied with an integral self-adhesive overlap. Place the section around the pipe and seal accordingly (Figure 1).

All joints between RockLap sections must be sealed with aluminum foil tape (Figure 2).

Handling

RockLap H&V Pipe Sections are easy to cut to any shape with a sharp knife. When stored outside, avoid contact with the ground and cover with a securely anchored waterproof sheet.

Maintenance

Once installed RockLap H&V Pipe Sections shouldn't require any maintenance.

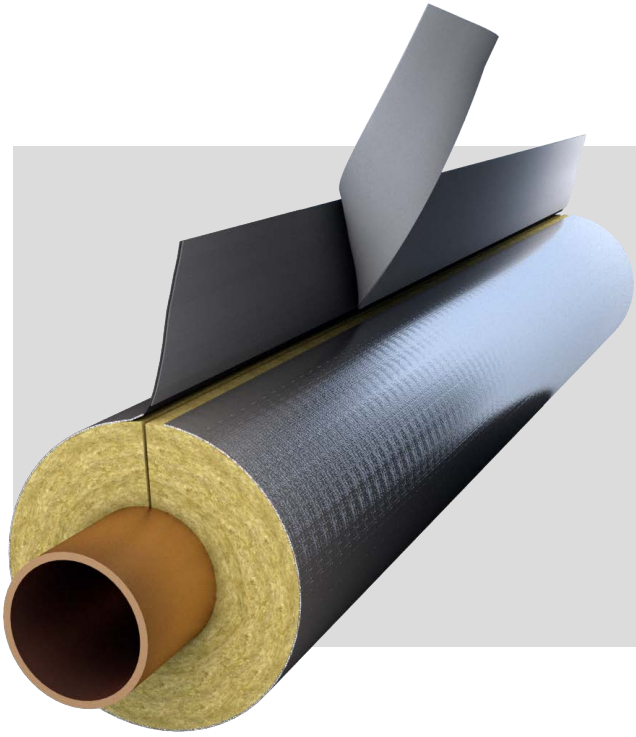


Figure 1

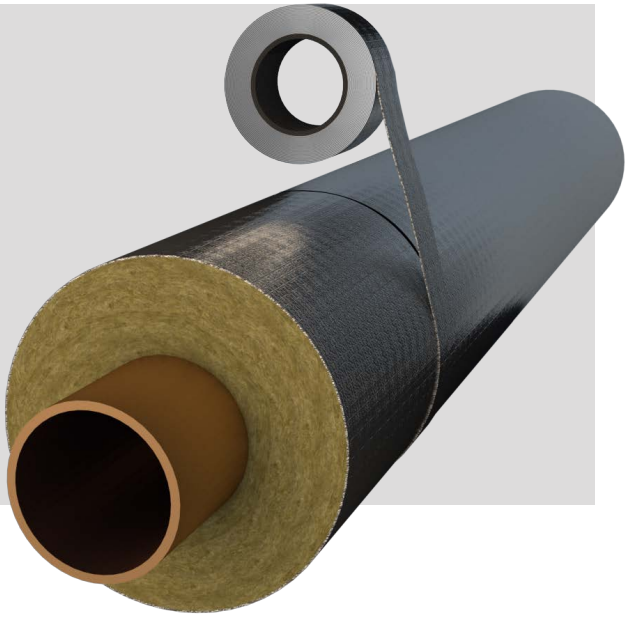


Figure 2

Specification clauses

Typical specification

Pipes to be insulated with ..... *mm thick ROCKWOOL RockLap H&V Pipe Sections, having a nominal density not less than 120kg/m^3, with a factory applied facing which is a laminate of close mesh reinforcement between two layers of foil including integral lap for fixing. The whole to comply with BS 5422:2009 and BS 5970 water vapour permeance and Building Regulation requirements in relation to thermal and fire. Fixing to be in accordance with manufacturer's instructions, by peeling protective tape from self-adhesive lap and pressing lap smoothly over joint. Where adjacent Sections abut, approved 75 mm wide aluminium tape to be used to maintain integrity of the vapour barrier.

For external applications please see HVAC Specification Detail Guide for external finishes.

*insert required thickness

Other guidance

Available standard dimensions and packaging matrix.

To Suit Pipe O.D. / mm	Insulation Thickness / mm										
	20	25	30	35	40	45	50	60	70	80	100
17	42 (1)	30 (1)	25 (1)	20 (1)	16 (1)						
21	36 (1)	30 (1)	20 (1)	13 (1)	13 (1)	9 (1)	9 (1)				
27	30 (1)	25 (1)	20 (1)	12 (1)	12 (1)	9 (1)	9 (1)	6 (2)	4 (2)		
34	25 (1)	20 (1)	16 (1)	12 (1)	9 (1)	8 (1)	8 (1)	5 (2)	4 (2)		
42	20 (1)	16 (1)	12 (1)	9 (1)	9 (1)	6 (1)	6 (1)	4 (2)	4 (2)	■ (2)	■ (2)
48	16 (1)	16 (1)	12 (1)	9 (1)	9 (1)	6 (1)	6 (1)	4 (2)	■ (2)	■ (2)	■ (2)
54	16 (1)	12 (1)	10 (1)	8 (1)	8 (1)	5 (1)	5 (1)	4 (2)	■ (2)	■ (2)	
60	12 (1)	12 (1)	9 (1)	7 (1)	7 (1)	5 (1)	5 (1)	4 (2)	■ (2)	■ (2)	■ (2)
67		9 (2)	9 (2)	6 (2)	6 (2)	4 (2)	4 (2)	■ (2)	■ (2)	■ (2)	■ (2)
76		9 (2)	7 (2)	5 (2)	5 (2)	4 (2)	4 (2)	■ (2)	■ (2)	■ (2)	■ (2)
80		9 (2)	6 (2)	5 (2)	5 (2)	4 (2)	4 (2)	■ (2)	■ (2)	■ (2)	■ (2)
89		6 (2)	6 (2)	4 (2)	4 (2)	4 (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
102		5 (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
108		5 (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
114		4 (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
127		4 (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	
133		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
140		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
150		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)			
154		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	
159		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
169		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
178		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)			
191		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)			
194		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
205		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
219		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
230					■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
245		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
253		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
273		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
279		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
305		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
318		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
324		● (2)	● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
356			● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
406			● (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)	■ (2)
456											
508											
558											
610											

(1 or 2) Applicable DOP Lambda Curve

Size is available to order

Size currently not available

42 Number indicates the Linear Metres per carton

■ These sections come "split" and are packed as single lengths which are shrink wrapped in polyethylene

● These sections come "unsplit" and are packed as single lengths which are shrink wrapped in polyethylene

Alternative sizes may be available. For further details please contact ROCKWOOL Customer Support

Sustainability

When it comes to our approach to sustainability, it is, simply put, a matter of living our purpose to address the challenges of modern living in a sustainable manner.

This means using natural materials to make products that have a positive impact on society.

- Fire resistance
- Acoustic comfort
- Sustainable materials
- Durability

Health and safety

The safety of ROCKWOOL stone wool is confirmed by current UK and Republic of Ireland health & safety regulations and EU directive 97/69/EC:ROCKWOOL fibres are not classified as a possible human carcinogen.

A Material Safety Data Sheet is available and can be downloaded from **www.rockwool.co.uk** to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH).

Environment

Made from a renewable and plentiful naturally occurring resource, ROCKWOOL insulation saves fuel costs and energy in use and relies on trapped air for its thermal properties.

ROCKWOOL insulation does not contain (and has never contained) gases that have ozone depletion potential (ODP) or global warming potential (GWP).

ROCKWOOL is approximately 97% recyclable. For waste ROCKWOOL material that may be generated during installation or at end of life, we are happy to discuss the individual requirements of contractors and users considering returning these materials to our factory for recycling.

Interested?

For further information, contact the Technical Solutions Team on **01656 868490** or email **technical.solutions@rockwool.co.uk**

Visit **www.rockwool.co.uk** to view our complete range of products and services.

Legal disclaimer

The ROCKWOOL Trademark

ROCKWOOL® - our trademark

The ROCKWOOL trademark was initially registered in Denmark as a logo mark back in 1936. In 1937, it was accompanied with a word mark registration; a registration which is now extended to more than 60 countries around the world.

The ROCKWOOL trademark is one of the largest assets in the ROCKWOOL Group, and thus well protected and defended by us throughout the world.

If you require permission to use the ROCKWOOL logo for your business, advertising or promotion. You must apply for a Trade Mark Usage Agreement.

To apply, write to: **marketcom@rockwool.com**.

Trademarks

The following are registered trademarks of the ROCKWOOL Group: ROCKWOOL®, ROCKCLOSE®
RAINSCREEN DUO SLAB®, HARDROCK®, ROCKFLOOR®
FLEXI®, BEAMCLAD®, FIREPRO®

Disclaimer

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To apply, write to: **marketcom@rockwool.com**.

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