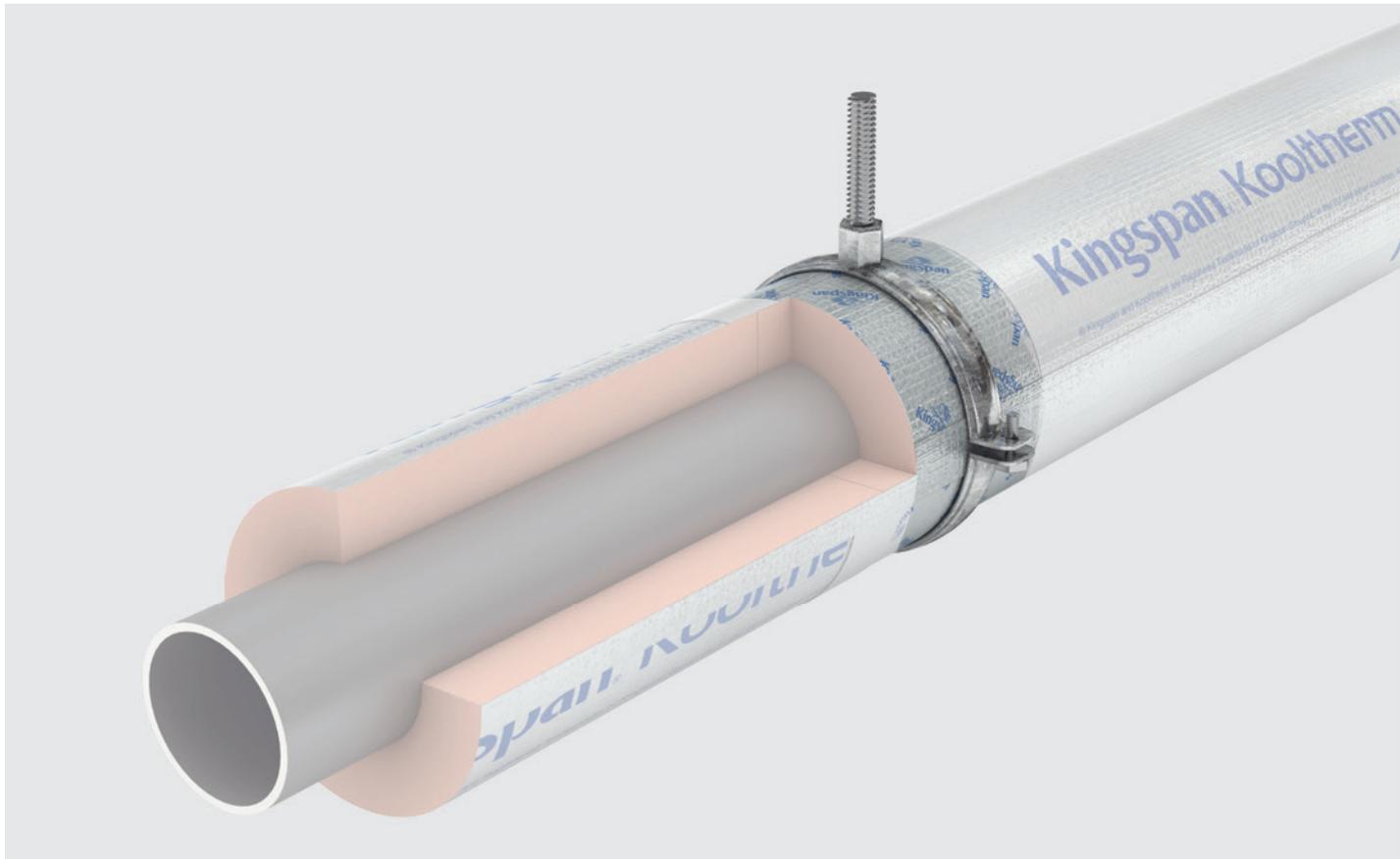


Insulation



Which Pipe Supports are You Specifying?



What is an insulated pipe support insert?

Insulated pipe support inserts are designed for use in pipe supports, hanger brackets and clamps and will support the compressive loads imposed on pipework carrying water or other liquids.

Why should they be used?

The primary functions of an insulated pipe support insert is to isolate the pipework from the pipe support to limit heat transfer and thermal bridging, and to allow for a continuous vapour barrier to be carried through the support system.

British Standards

Regarding the support of pipework in insulated systems, BS 5970: 2012 (*Thermal insulation of pipework, ductwork, associated equipment and other industrial installations in the temperature range of - 100°C to + 870°C. Code of practice*), recommends that Insulated Pipe Support Inserts should be used, and the pipe support bracket be fixed over load bearing insulation of the same material (or compatible with) the insulation on the pipe.

In Practice

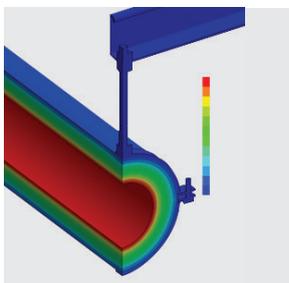
In the HVAC and building services industry most projects will either have phenolic insulated pipe support inserts or wood block pipe support inserts installed, and in some cases no pipe support inserts at all.

Wood Block Pipe Support Inserts

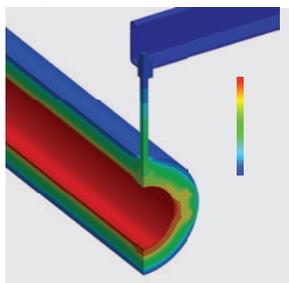
Previous advice given in BS 5970: 2012, that permitted the use of wooden pipe support inserts has been removed and replaced with a warning that **“wooden pipe supports should not be used”**. The reasons for this include the increased risk of condensation forming on wooden blocks and the difficulty of maintaining effective vapour barriers. Wooden pipe supports also have poorer thermal properties that increase the risk of thermal bridging.

Phenolic Insulated Pipe Support Inserts

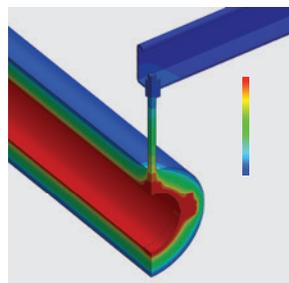
Phenolic insulated pipe support inserts such as Kooltherm® Insulated Pipe Support Inserts can provide a continuous vapour barrier on below ambient systems and thermal analysis of a + 75°C LTHW system to BS EN ISO 10211: 2007 (Thermal bridges in building construction. Heat flows and surface temperatures. Detailed calculations), has shown that Kooltherm® Insulated Pipe Support Inserts can limit heat loss by up to 4x more than rubber lined pipe clips, 5x more than metal pipe clips and 10x more than hardwood pipe support inserts.



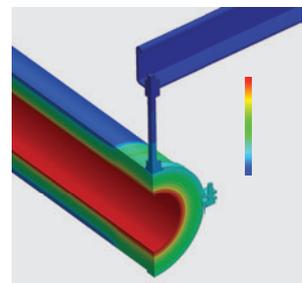
Kooltherm® Insulated Pipe Support Insert



Rubber Lined Clip fixed to the Pipe



Metal Clip fixed to the Pipe



Wood Block Pipe Support Insert

Fire Performance

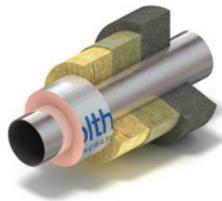
Kooltherm® Insulated Pipe Support Inserts are manufactured from Kooltherm® Pipe Insulation which has a densely cross-linked structure that makes them difficult to ignite and when subjected to fire, the outer surface forms a strong carbonaceous layer that limits heat generation and retards further flame spread.

Please contact the Kingspan Technical Insulation technical services department for further information.

Thermal Performance

This superior thermal performance of Kooltherm® Insulated Pipe Support Inserts derives mainly from their closed cell structure which has been optimised to resist heat transfer. The closed cells are filled with a thermally efficient CFC / HCFC-free blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

As a result of their closed cell, fibre free structure, Kooltherm® Insulated Pipe Support Inserts are unaffected by air infiltration - problems that can be experienced with other insulation materials and which can reduce thermal performance.



Load Bearing Calculations

Steel Pipe

| Steel Pipe Size | | | Kooltherm® Insulated Pipe Support Inserts | | | |
|-----------------|---------|---------|---|---------------------|----------------------|--------------------------------|
| NB (inches) | NB (mm) | OD (mm) | Length (mm) | Spreader Plate (mm) | Support Distance (m) | Density (kg / m ³) |
| 1/2 | 15 | 21.3 | 99 | none | 2 | 60 |
| 3/4 | 20 | 26.9 | 99 | none | 2 | 60 |
| 1 | 25 | 33.7 | 99 | none | 2 | 60 |
| 1 1/4 | 32 | 42.4 | 99 | none | 2 | 60 |
| 1 1/2 | 40 | 48.3 | 99 | 1.0 | 4 | 60 |
| 2 | 50 | 60.3 | 99 | 1.0 | 4 | 60 |
| 2 1/2 | 65 | 76.1 | 99 | 1.0 | 4 | 80 |
| 3 | 80 | 88.9 | 99 | 1.0 | 4 | 80 |
| 4 | 100 | 114.3 | 99 | 1.0 | 4 | 80 |
| 5 | 125 | 139.7 | 99 | 1.0 | 4 | 80 |
| 6 | 150 | 168.3 | 124 | 1.5 | 6 | 120 |
| 8 | 200 | 219.1 | 124 | 1.5 | 6 | 120 |
| 10 | 250 | 273.0 | 124 | 1.5 | 6 | 120 |
| 12 | 300 | 323.9 | 200 | 2.0 | 4 | 120 |
| 14 | 350 | 355.6 | 200 | 2.0 | 4 | 120 |
| 16 | 400 | 406.4 | 200 | 2.0 | 4 | 120 |
| 18 | 450 | 457.0 | 200 | 2.0 | 4 | 120 |

Values given are based upon Kooltherm® Insulated Pipe Support Inserts with an integral metal spreader plate where specified in the table above.

Copper Pipe

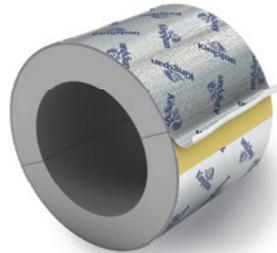
| Copper Pipe Size | Kooltherm® Insulated Pipe Support Inserts | | | |
|------------------|---|---------------------|----------------------|--------------------------------|
| NB (inches) | Length (mm) | Spreader Plate (mm) | Support Distance (m) | Density (kg / m ³) |
| 15 | 99 | none | 2 | 60 |
| 22 | 99 | none | 2 | 60 |
| 28 | 99 | none | 2 | 60 |
| 35 | 99 | none | 2 | 60 |
| 42 | 99 | none | 2 | 60 |
| 54 | 99 | 1.0 | 4 | 60 |
| 67 | 99 | 1.0 | 4 | 60 |
| 76 | 99 | 1.0 | 4 | 80 |

Values given are based upon Kooltherm® Insulated Pipe Support Inserts with an integral metal spreader plate where specified in the table above.

Kooltherm® Insulated Pipe Support Inserts



- Made on CPL
- Bore coated liner
- No metal
- Sizes: Up to 42 mm OD
- 60 kg / m³ density
- Branded foil for ease of identification



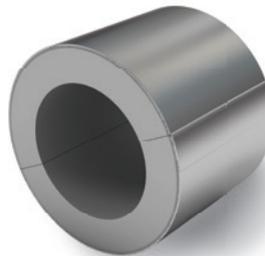
- Cut from phenolic block
- Bore coated
- Metal all round
- Any OD available
- 60 - 120 kg / m³ density
- Suitable for use in vertical riser shafts



- Cut from phenolic block
- Bore coated
- No metal
- Sizes: Up to 42 mm OD
- 60 - 80 kg / m³ density
- Branded foil for ease of identification



- Cut from phenolic block
- Bore coated
- Half metal
- Sizes: Any OD available; standard above 42 mm OD
- 60 - 120 kg / m³ density
- Branded foil for ease of identification



- Cut from phenolic block
- Bore coated
- Metal all round
- Any OD available
- 60 - 120 kg / m³ density
- Supplied with zero permeability vapour barrier jacketing
- Minimises risks of water ingress in external pipe support applications



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