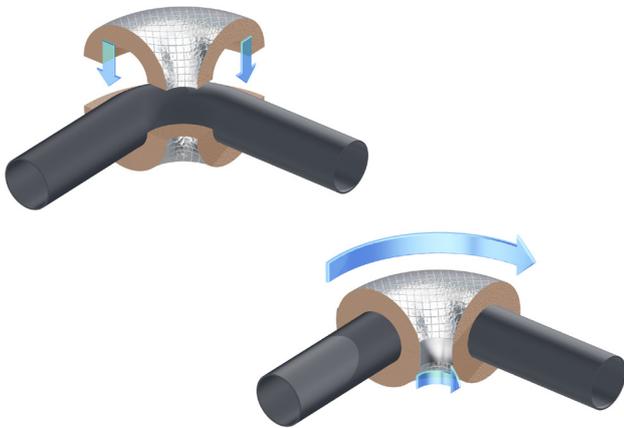
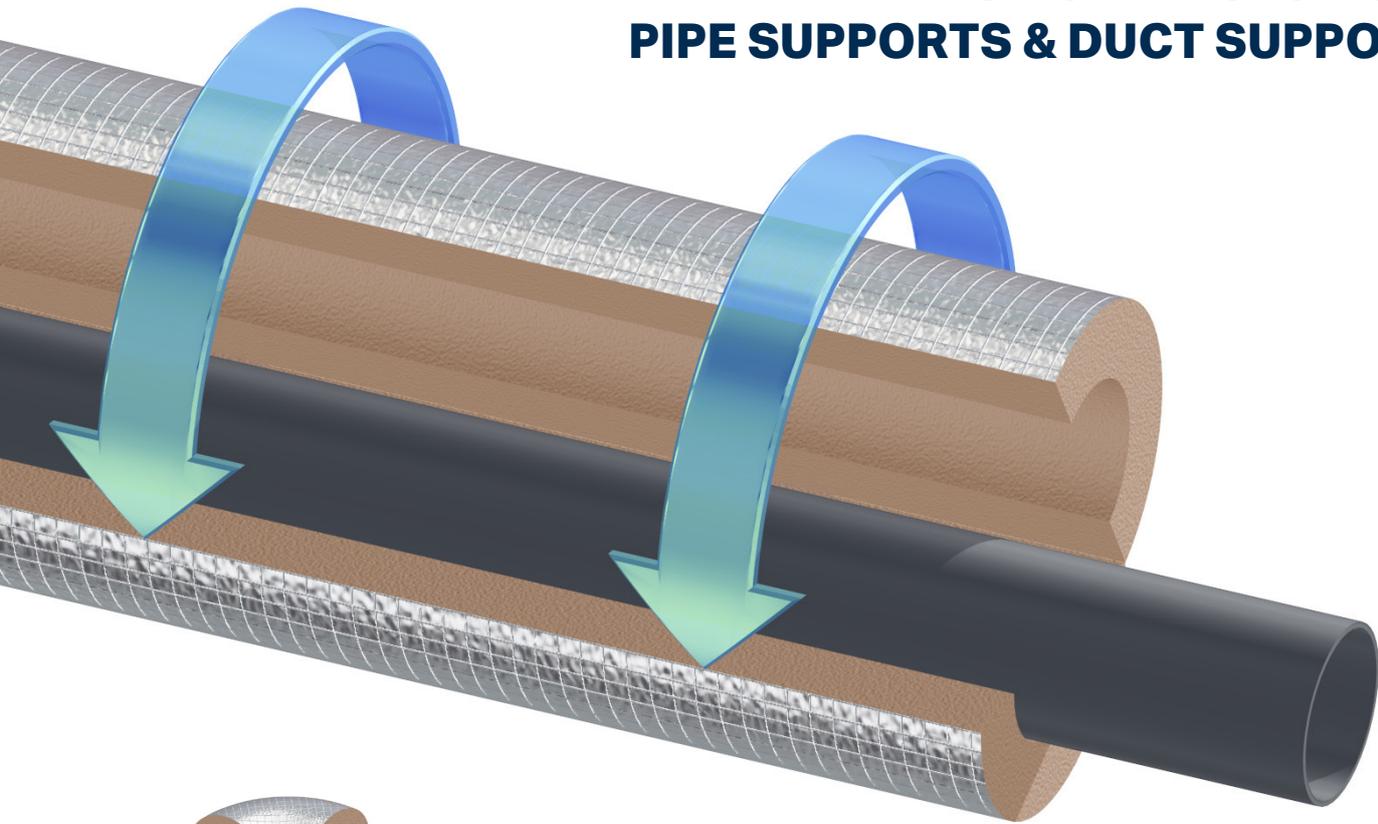


# INSUL-PHEN

## PHENOLIC PIPE SECTIONS, PIPE SUPPORTS & DUCT SUPPORTS



**ISOPARTNER** Technical Insulation Solutions has developed the INSUL-PHEN Phenolic Foam range of closed cell insulation products focusing on achieving the highest possible thermal insulation value. INSUL-PHEN Phenolic Pipe Sections and Pipe Supports are available in a range of densities from 40 kg/m<sup>3</sup> to 120 kg/m<sup>3</sup>.

Increased awareness of energy consumption is driving the construction industry to higher standards of thermal insulation. INSUL-PHEN 40 kg/m<sup>3</sup> excels in thermal insulation value with an aged thermal conductivity of 0.025 W/mK.

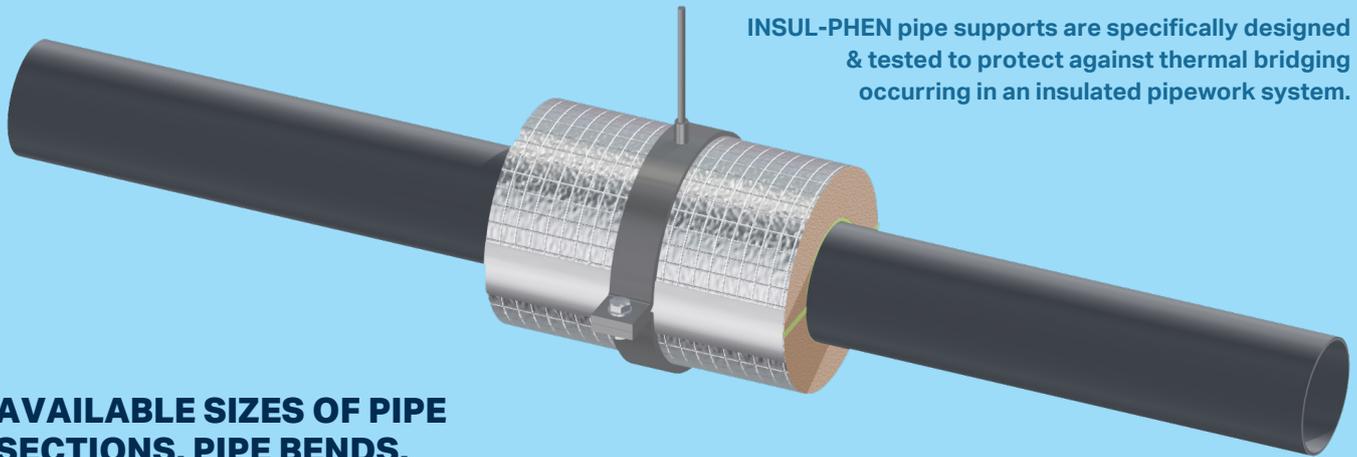
High density material such as INSUL-PHEN 80 kg/m<sup>3</sup> and over provide high mechanical strength required for applications such as the use of Pipe Supports, Duct Supports and other industrial applications. INSUL-PHEN provides solutions to achieve higher insulation values at minimum thickness.

All products in the INSUL-PHEN product range have one other unique feature apart from the highest thermal insulation value and mechanical strength, its fire performance. Independent testing concludes that INSUL-PHEN has a Euroclass of BL-s1, d0. It has an extremely low smoke emission and does not create burning droplets. In fire situations it will develop a carbonaceous layer on the exposed surface which protects the deeper layers of the material.



# THERMAL BRIDGING

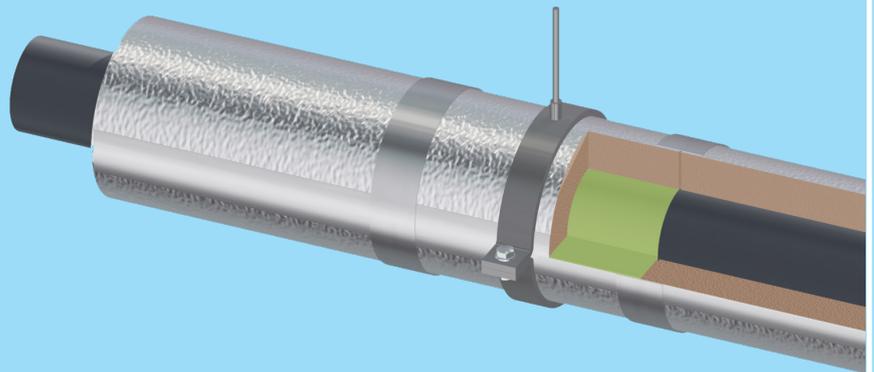
Thermal bridges, also known as cold bridges, are weak points (or areas) within a system which allows heat to pass through more easily. They occur where materials which are better conductors of heat are allowed to form a 'bridge' between the inner and outer face of a system. The standard BS 5970 Thermal insulation of pipework, ductwork, associated equipment and other industrial installations in the temperature range of -100 °C to +870 °C – Code of practice (revised in 2012) included a significant change in direction regarding the support of pipework in insulated systems. It states 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.



INSUL-PHEN pipe supports are specifically designed & tested to protect against thermal bridging occurring in an insulated pipework system.

## AVAILABLE SIZES OF PIPE SECTIONS, PIPE BENDS, DUCT SUPPORTS AND PIPE SUPPORTS

INSUL-PHEN Pipe Sections, Pipe Bends, Duct Supports and insulated Pipe Supports are made to order for a range of pipe sizes, insulation thicknesses and lengths (for pipe supports) at our production facility in Dublin. For large pipe bores, we offer support in designing the required pipe support including for pipe bores in excess of 2 metres.



## INSUL-PHEN CALCULATION TOOL

ISOPARTNER offers technical support to designers and engineers to get the right solution for your site specific insulation requirements. For INSUL-PHEN products we use a calculation tool to determine the load capacity, line spacing or pipe support length to suit your needs.

An example of a calculation is as follows:

	O.D.	Weight Pipe	Content Pipe	Content Pipe	Insul thkns.	Weight Insulation	Total Weight	Length Support	Density	Maximal	Compr. str	Allowable	
Inch	mm	kg/m	litre	kg/m	mm	kg/m	kg/m	mm	INSUL-PHEN	Compressive Strength	Incl. Safety	Sustainable Load	Spacing Length
									kg/m <sup>3</sup>	kPa	kg/cm <sup>2</sup>	kg	m
20	508.0	118.88	187.77	187.77	50	3.51	310.16	200	120	850	1.7	904.4	2.6
24	609.6	143.11	273.91	273.91	50	4.14	421.16	200	120	850	1.7	1085.2	2.6

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