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## Section 20

## Crestatherm

## Hardwood Insulating Blocks/2048

- Excellent load carrying capabilities.
- Traditionally acceptable materials.
- Wood forested from managed plantations.
- Strong and robust suited to a building site environment.
- As the block is cut to the thickness of the thermal insulation, the continuity of the vapour seal can be readily achieved.
- Sheet steel sleeves or foil facings are available as options to aid vapour sealing.

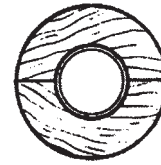


FIG 48-2048  
Hardwood blocks  
20481-OBECHE  
20482-IROKO



FIG 48-2049  
Split shells



FIG 49-2048A  
Phenolic foam  
pipe support

## Phenolic block - High-density structural phenolic foam insulation Block/2048A

- Excellent thermal properties.
- Dust free with a bore coating for added protection.
- Class 'O' foil vapour barrier.
- CFC - environmentally acceptable.
- Built in self-adhesive sealing strip.
- Lightweight, safe and easy to handle.

## Phen-Tec V 900/2048P

- High quality pipe support insulation block.
- An exclusive and yet very cost efficient product.
- Non combustible, non-toxic and high temperature load bearing. (max 900 °C)
- Environmentally friendly.
- Class O foil faced.

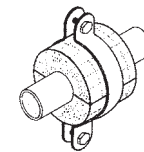


FIG 48-2048P  
Phentec vermiculate  
pipe supports

2048S  
CALCUIM SILICATE

- Non combustible.
- Non fibrous.
- High thermal resistance.



2048S  
Calcium  
silicate

## OTHER INSULATION PRODUCTS

## CROCODILE

- Segments in both wood and phenolic

## LAGGING

- Sections for pipe work

Class O foil, vapour sealing type

FIG 48 / 20-48

Crestatherm

**(HARDWOOD INSULATION) BLOCKS FOR CHILLED AND COLD WATER PIPEWORK**

A Cresta Traditional product supplied for many years to the building industry. Unless otherwise specified, Crestatherm insulation blocks are cut from OBEICHE (WAWA). This is a light weight hard wood, which is forested from managed plantations in Ghana. For external use Crestatherm blocks are produced from IROKO timber.

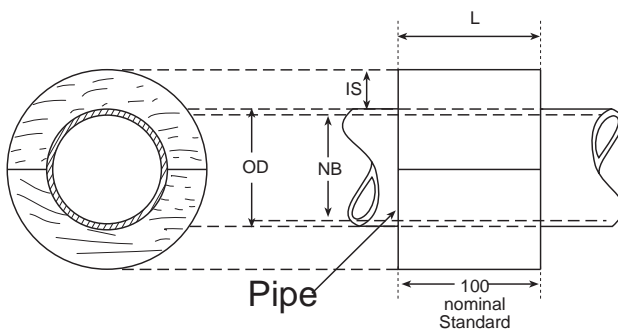
Ghana has a very strict forestry policy. The Ghana Conservator of Forests issue a Certificate which states Products from sustained yield management, for each shipment of hardwood to the UK.

- Each insulation block is hand cut to suit the outside diameter of the pipe and thickness of insulation.
- All timber used is kiln dried and consistent of quality.
- Detailed data sheets are available for OBEICHE (WAWA) & IROKO

To order insulation support blocks please refer to the table and specify the following information

PIPE	Information Required
* Type of Timber	
NB = Nominal Bore	
OD = Outside Diameter	
IS = Insulation Thickness	
L = Length	(100mm nominal std)
Foil facility (Class 0)	yes/no

\* Unless otherwise stated OBEICHE will be supplied.

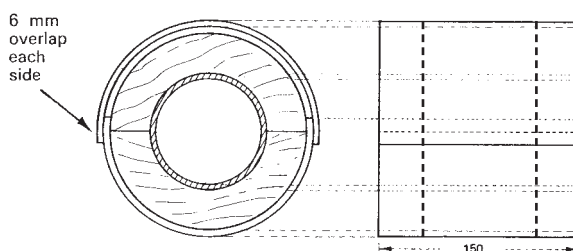


Other sizes and shapes to order  
Class 0, foil facility available  
To complement the wood insulation block 'split shells' are available.

**SPLIT SHELLS**

FIG 49 / 20-49

**SPLIT SHELLS (For use with all insulation supports blocks)**



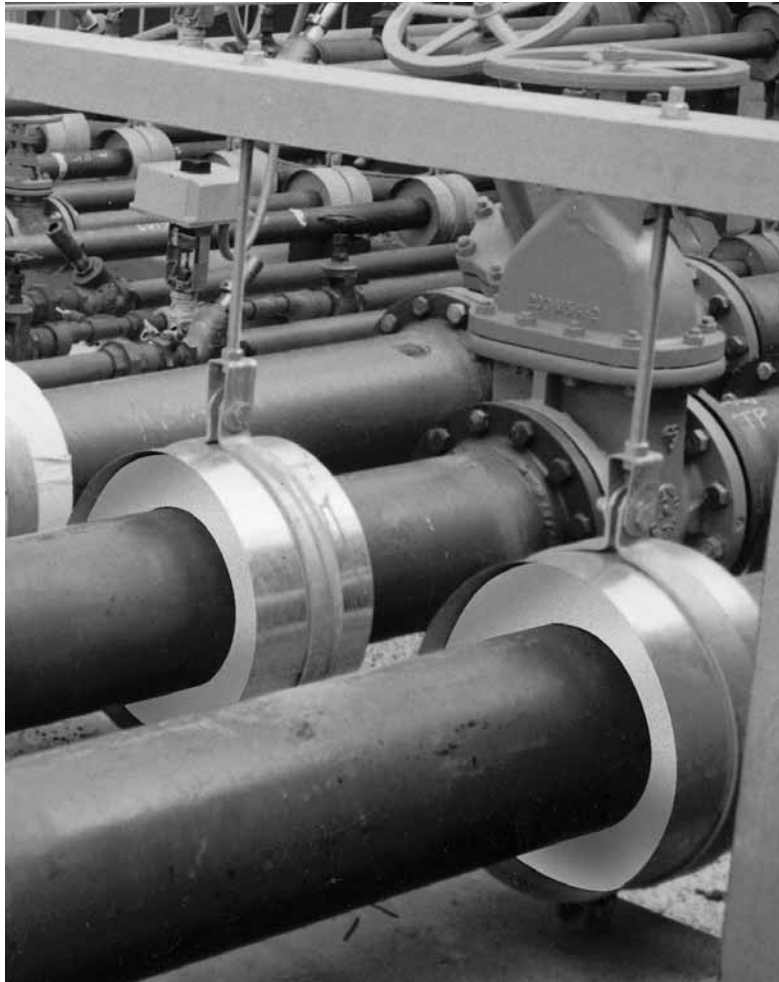
Other lengths to order  
Manufactured from pre-galvanised steel sheet.



**cresta**  
PIPE SUPPORTS: FAST

# Kooltherm®

## HIGH DENSITY PRODUCTS FOR LOAD BEARING APPLICATIONS



### High Density Products Benefits & Advantages

- Class 0 fire rating for both phenolic and jacket.
- Negligible smoke emission.
- Best available thermal insulation properties.
- K Blocks have a cell structure which resists moisture absorption.
- CFC Free formulation provides the optimum energy saving and environmental solution in meeting current international agreements.
- Insulation values are significantly better than wood, calcium silicate or foam glass making it more cost efficient.
- Non-Fibrous.
- Excellent chemical resistance and does not support vermin or mould.
- Factory applied aluminium foil vapour barrier jacket with low emissivity for increased energy efficiency.
- Suitable for use in food processing, pharmaceutical, medical and other clean air environments.
- Treated with a specially formulated dust suppressant and passivating bore coating.
- Guaranteed for 10 years, if fitted in accordance with Kooltherm recommendations.



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## *Kooltherm High Density Phenolic*

### DESCRIPTION

Kooltherm CFC Free phenolic is available in a range of high densities which are used to manufacture load bearing insulation inserts for pipework and ductwork supports. They are faced with a factory applied reinforced Class 0 aluminium foil barrier which matches that used on standard Kooltherm pipe insulation and Kooltherm duct insulation. Their use eliminates thermal bridging and facilitates sealing of the aluminium foil jacket to form a continuous vapour barrier which is particularly important on cold pipework and ductwork.

### KOOLTHERM HIGH DENSITY PHENOLIC

A range of high density CFC Free phenolics which are used mainly in the design and manufacture of load bearing insulation supports for pipework, ducting and vessels. They have excellent fire resistance and extremely low smoke emission.

### TYPICAL PROPERTIES

HIGH DENSITY PHENOLIC;				
Nominal Densities (kg/m <sup>3</sup> )	60	80	120	160
Compressive Strength (kPa)				
Parallel to rise	400	650	1350	2300
Perpendicular to rise	270	400	950	1650
Thermal Conductivity at 10°C mean (W/mK)	0.028	0.031	0.033	0.036
Moisture Vapour Resistivity (MNs/gm)	360	360	360	360
Moisture Vapour Transmission (ug.m/Nh at 38°C, 88%rh)	10	10	10	10
Moisture absorption (ISO 2896/50mm head for 7 days)	5%	5%	5.5%	6.5%
Temperature Limits, all densities;	-180°C to +120°C			
BS 476 Part 7: surface spread of flame rating,	Class 1			
BS 476 Part 6: fire propagation				
Main Index	I<12			
Sub Index	i<6			
Building Regulations, Approved Document B,	Class 0			
BS 5111 Part 1: Smoke obscuration rating,	<5% (negligible)			
ASTM D3014 - Flammability - Weight retained,	85%			
ALUMINIUM FOIL VAPOUR BARRIER JACKET;				
Moisture Vapour Permeance (g/sMN)	0.0006			
Fire Rating	Class 0			

**K BLOCK PIPE SUPPORT INSERTS**

Standard Kooltherm K Block Pipe Support inserts are designed to be used in pipe hanger brackets and will support the compressive loads imposed by horizontal pipework carrying water or other liquids. Their use enables the specified thickness of insulation to be maintained at the pipe supports and facilitates the installation of a continuous and fully sealed vapour barrier which is particularly important on cold pipework.

Kooltherm K Blocks may be used to support all types of pipework operating up to a maximum continuous temperature of 120°C, including mild steel, stainless steel, copper and plastic pipes. They are available to suit all standard pipe sizes and thicknesses of insulation. Special sizes are available on request.

Load bearing calculations for the standard range of Kooltherm K Blocks are based on the minimum compressive strength of the relevant density of phenolic (ie: perpendicular to rise) and include a safety factor of 5 (Table 1). They are designed to support the maximum static compressive loads imposed by horizontal water filled mild steel (BS 1387 heavy grade) pipework and with hanger supports spaced at the maximum centres shown in Table 2.

**CROCODILE STRIP - CIRCULAR DUCT SUPPORT INSERTS**

Crocodile Strips are designed for use in air conditioning and ventilation circular ducting support brackets. They are manufactured from segments of high density phenolic fully adhered to a backing strip of reinforced aluminium foil vapour barrier jacket. Their use enables the specified thickness of insulation to be maintained at the duct support and facilitates the installation of a continuous and fully sealed vapour barrier which is particularly important on ductwork carrying cold air.

Crocodile Strips should not be used for water filled pipes.

Kooltherm K Blocks are not designed to accommodate pipe anchor loads and stresses.

Kooltherm K Blocks are manufactured to the dimensional tolerances shown in Table 3 and lengths shown in Table 1.

For pipework supported on roller supports the modified design of Roller Support Kooltherm K Block shown in Fig 4 should be used.

Fig. 1 (Installation of K Block)

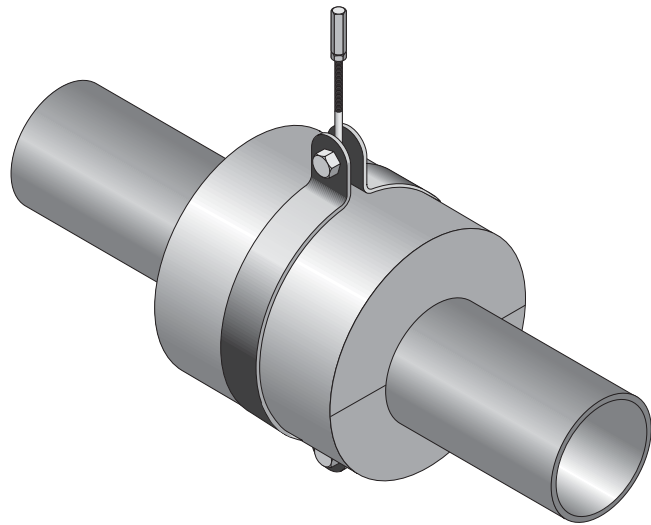
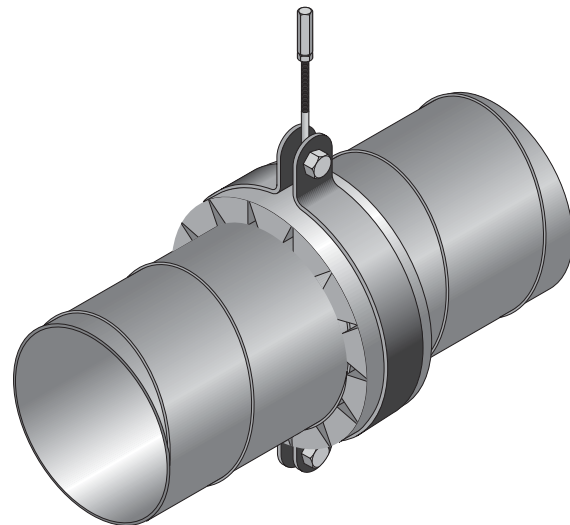


Fig. 2 (Installation of Crocodile Strips)



Availability			
Strip Lengths	1 metre		
Widths	50mm	75mm	100mm
Thickness	20mm and above		

# Technical Data

TABLE 1

Nominal Pipe Size (*)	Pipe OD (mm)	K Block Length	Max. Load kg
1/2	21	99	12
3/4	27	99	15
1	34	99	19
1 1/4	42	99	23
1 1/2	48	99	27
2	60	99	33
2 1/4	76	99	62
3	89	99	73
4	114	99	94
5	140	99	115
6	168	124	410
8	219	124	534
10	273	124	666
12	324	200	1265
14	356	200	1389
16	406	200	1585
18	457	200	1784

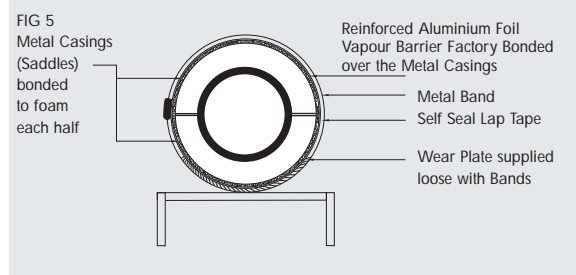
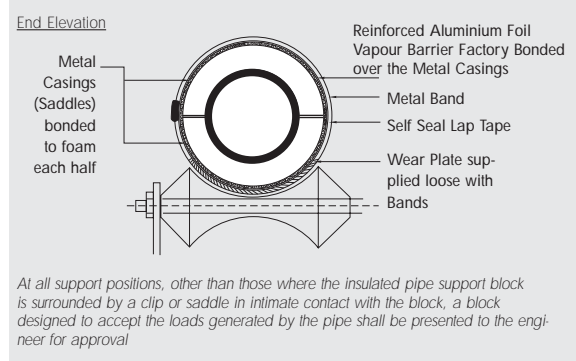
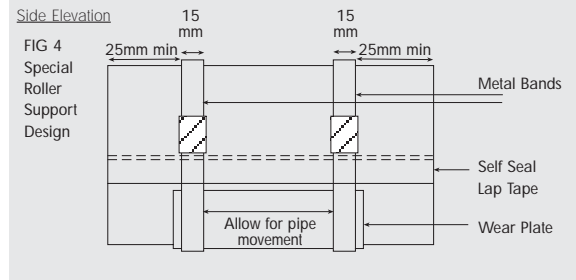


TABLE 2: MAXIMUM SUPPORT CENTRES

Kooltherm support blocks have been designed to support pipes at the centre shown in the following table.

Nominal Pipe Size (*)	1/2	3/4	1	1 1/4	1 1/2	2	2 1/4	3	4	5	6	8	10	12	14	16	18
OD of Pipe (mm)	21	27	34	42	48	60	76	89	114	140	168	219	273	324	356	406	457
Max Support Centres (m)	3			4				6			4						

Special K Blocks can be manufactured for support centres greater than above, refer to Technical Department.

TABLE 3: STANDARD KOOLTHERM K BLOCK DIMENSIONS

Reference	NB inches	OD mm	Pipe Size Length of support	Metal Spreader	Insulation Thickness
Range 1	1/2 to 1 1/4	21 to 42	99mm	None	20-100mm
Range 2	1 1/2 to 5	48 to 140	99mm	1.0mm	20-100mm
Range 3	6 to 8	168 to 219	124mm	1.5mm	20-100mm
Range 4	10 to 18	273 to 457	200mm	2.0mm	25-200mm

Cresta Supply Co. Ltd are authorised distributors of 'Kooltherm' products. Kooltherm is a trading name of Kingspan Industrial Insulation Limited.

The values given against these properties are typical. They are not meant to imply specification limits and should not be used for this purpose without reference to Kingspan Industrial Insulation.

This brochure cancels and supersedes all previous editions. Kingspan Industrial Insulation reserves the right to amend specifications without prior notice.

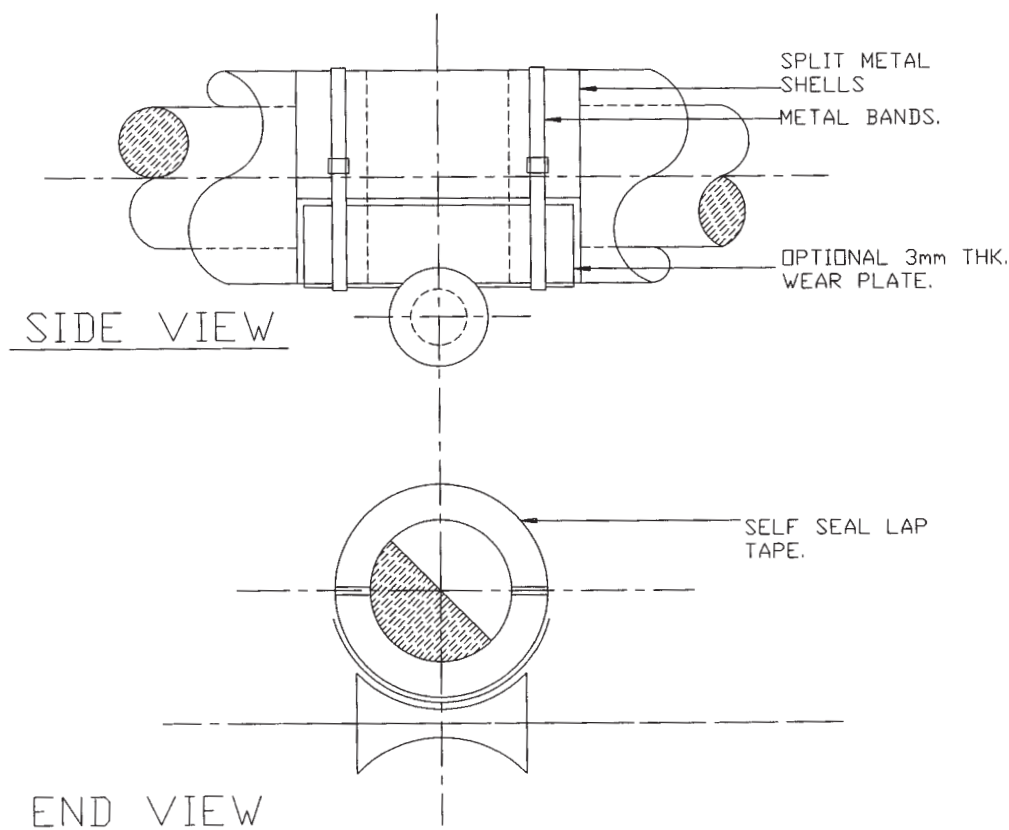
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## PHEN-TEC V900/2048

### HIGH TEMPERATURE PIPE INSULATION SPACE SUPPORT BLOCK

The Phen-Tec V900 is a high quality pipe support insulation block comprising specially treated vermiculite and inorganic binders. The Phen-Tec V900 is non combustible, non toxic, high temperature load bearing and environmentally friendly.

Please contact the sales office for current technical information on this new product.



- STD Pipe size range – 15mm to 150mm NB
- STD Length – 100mm (other lengths available of request)
- STD Insulation thickness – 25mm, 30mm, 40mm, 50mm (other thickness available upon request)
- Temperature range – 20°C to 400°C
- Combustibility – Non combustible when tested to BS 476: Part 4 1970
- Gas emission – Does not emit smoke or toxic gases when exposed to fire
- Compressive yield strength – 930kN/M<sup>2</sup> (135 psi)
- Effects of chemicals – High resistance to acid vapours and normal atmospheric pollution
- Density – 430Kg/M<sup>3</sup>
- Biological attack – Will not support micro-organisms or mould growths
- Moisture Absorption – Must be stored and installed under dry conditions
- Finish – Coated with a silicate solution and faced with a class 'O' reinforced aluminium foil
- Load bearing – Requires sheet steel sleeves + banding as per drawing
- Thermal conductivity (K) – 0.105 W/M°C at 200°C  
– 0.08 W/M°C at 20°C

Refer to section 25 for associated pipe expansion products