

# SUPAPHEN

## Data Sheet

### SUPAPHEN Phenolic Insulation

Supaphen is a high performance rigid phenolic thermal pipe insulation used primarily for the lagging of chilled, cold, hot and heating pipe work.

Supaphen complies with the requirements of European standard BS EN 14314, thermal insulation products for building equipment and industrial installations – factory made phenolic foam (PF) products.

Supaphen is fire and smoke safe and has been tested at Warrington Fire in the UK as a pipe section to the required standard EN13501-1 achieving BL - s1, d0.

Supaphen is highly thermally efficient with a maximum aged K value (thermal conductivity) tested to European standard EN12667 of 0.025 W/m.k.

Supaphen is verified in accordance with the requirements of EN 15804:2012+A1:2013 - under the BRE Global Verified Environmental Product Declaration (EPD).

Supaphen is manufactured as a rigid block at a standard density of 40kg/m3. MW Insulation fabricate pipe section from block at a uniform thickness and to close tolerances ensuring a tight fit to the pipe.

Supaphen is impregnated with a passivating silicate solution at foam manufacturing stage and the inner bore of Supaphen pipe sections are treated with a factory applied dust suppressing passivating bore coating solution.

MW apply a fire rated aluminium foil vapour barrier to the Supaphen pipe sections as standard. Alternative factory applied facings are also available – Proclad or Vapor Fas 62-05 in plain silver, embossed, black or white. Also Mylar type foil and black or white standard foil.

Supaphen is also available as a high density product for the manufacture of load bearing Pipe Supports.

**Please contact Mike Whelan or Scott Milner on 0161 877 1608 for information and technical support.**

PROPERTIES	STANDARD	UNITS	SUPAPHEN
Nominal Density		kg/m <sup>3</sup>	40
Colour			GREEN
Thermal Conductivity	EN12667	W/m·K at 10°C	0.025 max
Temperature Range		Celsius	-50°C to +120°C
Compressive Strength	EN826	kPa	
- Parallel To Rise			min 120
Closed Cell Content	EN4590		≥ 90%
Dimensional stability	EN1604		≤ 1.5%
Water absorption	EN1609	kg/m <sup>2</sup>	≤ 1.25%

#### KEY TECHNICAL FEATURES

EN 15804:2012+A1:2013 Environmental Product Declaration (EPD) - BRE Global Verified

BS EN 14314 Phenolic foam standard compliant

Fire and Smoke safe - BL -s1, d0 tested to EN 13501-1

Thermally efficient - max aged K value of 0.025 W/m.k tested to EN12667

Environmentally safe - CFC & HCFC free, GWP less than 5

Zero Ozone Depletion Potential

Bore coated in line with major engineering specifications

#### Supaphen Approvals & Compliance



#### MW Insulation Ltd Approvals & Compliance



#### FIRE TEST CLASSIFICATION

European standard EN 13501-1 (standard foil faced pipe section)

BL -s1, d0

Class 0 to UK building regulations BS476 parts 6 & 7 - Results comply with the requirements for a Class 0 surface spread of flame as defined in Approved Document B(2006) "fire safety" to UK Building Regulations.

**Environmental Commitment** – MW Insulation operate a zero waste to landfill policy with as much waste as possible being recycled and the remainder used as refuse derived fuel.

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### Installation Guidelines

Installation to comply with the requirements of BS5970:2012 code of practice for the thermal insulation of pipe work is essential.

Use minimum 50mm wide matching aluminium foil tape at circumferential and longitudinal joints of pipe sections and apply two bands of tape equally spaced along the metre length of each section.

Elbows and fittings should be mitred or fabricated on site ensuring uniform thickness and snug fitting, particularly on chilled water pipes to ensure continuous integrity of vapour seal is maintained.

Use high density phenolic insulation inserts at the pipe support points, ensuring the butt joints with regular pipe section are matched and sealed with aluminium foil tape and all metalwork is external to the insulation.

External pipe work should be weather protected with an appropriate cladding/jacketing system.

Pipe work must be thoroughly cleaned and dry prior to the application of SUPAPHEN Insulation.

### Thickness Tables

Guide Thickness Tables, based on Tables 8 & 9, BS5422:2009. K value 0.021 Wmk at 10°C, Aluminium Foil Finish, 0.05 Emissivity, Ambient Temp 25°C, Relative Humidity 80%

#### 10°C COLD WATER - STEEL PIPES

PIPE DIAMETER	SUPAPHEN THICKNESS
17-27mm	15mm
34-89mm	20mm
114-168mm	25mm
219-406mm	30mm
457-610mm	35mm

#### 10°C COLD WATER - COPPER PIPES

10-28mm	15mm
35-76mm	20mm
108mm	25mm

#### 5°C COLD WATER - STEEL PIPES

PIPE DIAMETER	SUPAPHEN THICKNESS
17-27mm	20mm
34-48mm	25mm
60-89mm	30mm
114-168mm	35mm
219-273mm	40mm
324-508mm	45mm
610mm	50mm

#### 5°C COLD WATER - COPPER PIPES

10-28mm	20mm
35-54mm	25mm
76-108mm	30mm

Non Domestic Hot Water - to control heat loss, based on Table 17, BS5422:2009.

PIPE DIAMETER	SUPAPHEN THICKNESS
17-27mm	15mm
34-60mm	20mm
76-168mm	25mm
219-273mm	30mm

Protection against freezing, based on Table 28, BS5422:2009.

+5°C water, -10°C Ambient, 12 Hours - No Ice

PIPE DIAMETER	SUPAPHEN THICKNESS
up to 41mm	Contact us
41mm (10% Ice)	40mm
53mm	70mm
53mm (10% Ice)	30mm
68mm	45mm
68mm (10% Ice)	20mm
80mm	35mm
80mm (10% Ice)	20mm
105mm	20mm
105mm (10% Ice)	20mm
159mm	15mm

Domestic Heating & Hot Water, based on Table 20, BS5422:2009.

PIPE DIAMETER	SUPAPHEN THICKNESS
up to 42mm	15mm
42-54mm	20mm

Indicative Thickness - Heat Loss - Low Temp Heating Pipework, based on Table 15, BS5422:2009.

PIPE DIAMETER	SUPAPHEN THICKNESS
17-21mm	15mm
27-42mm	20mm
48-89mm	25mm
114-219mm	30mm
+273mm	35mm

Indicative Thickness for Max Permissible Heat Gain, based on Table 10, BS5422:2009.

#### COLD WATER

PIPE DIAMETER	SUPAPHEN THICKNESS
17-219mm	15mm
273mm	20mm

#### CHILLED WATER (5-10°C)

PIPE DIAMETER	SUPAPHEN THICKNESS
17-42mm	15mm
48-168mm	20mm
219-273mm	25mm

#### CHILLED WATER (0-5°C)

PIPE DIAMETER	SUPAPHEN THICKNESS
17-34mm	15mm
34-60mm	20mm
76-168mm	25mm
219-273mm	30mm

Disclaimer - The values provided are typical and accurate but subject to normal variation. The information contained on this data sheet is believed to be correct at the time of publication. MW Insulation reserves the right to amend the product data/specification without notice. MW Insulation makes no guarantees nor provides warranties about the suitability of the product for a chosen application. If in doubt or for any advice, please contact MW Insulation Ltd.