



Taking care of energy and environment

the Smart Line



- Low smoke
- UV resistant
- Strong and flexible
- μ 7000

Thermaflex AC

**Professional insulation
for air-conditioning, cooling
and refrigeration**

Thermaflex AC

Thermaflex AC is an innovative new material, based on thermoplastic elastomeric foams, and is specifically designed for cooling and air-conditioning applications. It has excellent insulation properties and a high μ value. It is flexible and, at the same time, very strong.

General material characteristics

Thermaflex AC has a fine, closed cell structure and remains flexible within the total temperature range of -80°C to $+95^{\circ}\text{C}$. Thermaflex AC is very strong and will not tear easily. The material remains flexible even under extremely cold conditions. It has an excellent resistance to oils and chemicals. Due to the fact that Thermaflex AC does not have a surface skin but is strong throughout, rodents and birds cannot damage the material. Therefore Thermaflex AC is suitable for indoor and outdoor applications. It is completely UV resistant and will perform for many years without additional UV resistant paint or cladding.

Environmental friendliness

Thermaflex AC is completely recyclable. This in contrast to other elastomeric foams, which are only partly recyclable. Thermaflex AC does not contain harmful CFC's (Ozone Depleting Potential and Global Warming Potential = 0). The Lifecycle Analysis indicates that Thermaflex AC has a better ecological score than any other alternative material.

Insulation properties

Thermaflex AC has an excellent thermal conductivity (λ values are 0.038 W/m.K at 40°C and 0.034 W/m.K at 0°C). Thermaflex has these values regularly checked by independent institutes like the Forschungsinstitut für Wärmeschutz (FIW) in Munich, guaranteeing a high degree of energy saving and a short payback period of the investment in Thermaflex AC.

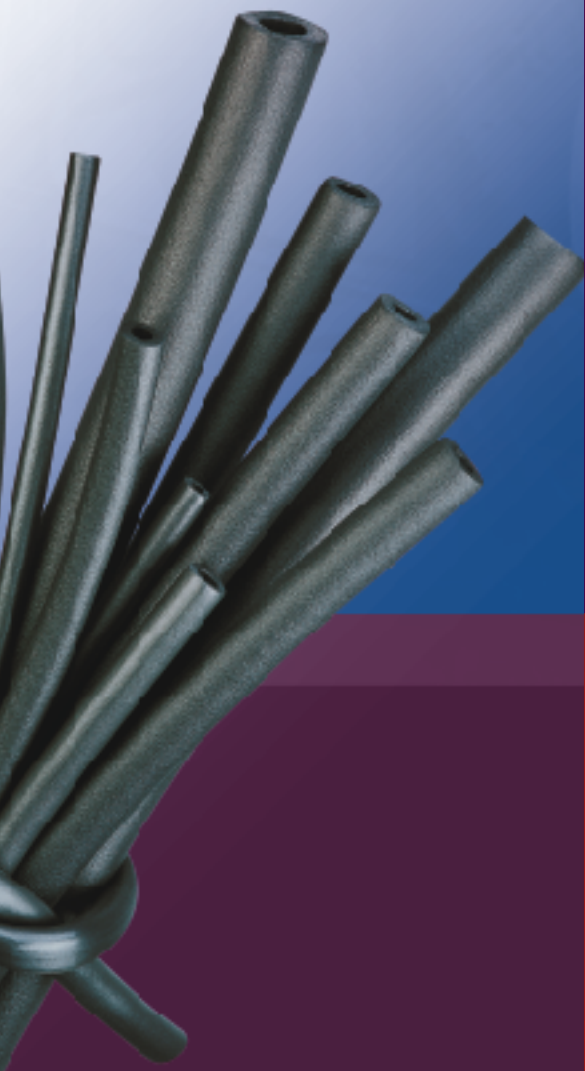
Condensation and water absorption

Thermaflex has a very fine, closed cell structure, and will hardly absorb water, even when the outer surface of the material is damaged. This results in a continuously high water-vapour diffusion resistance value (μ) of ≥ 7000 . A high μ value, together with a low thermal conductivity value (λ) guarantees the prevention of condensation. Condensation causes corrosion, and results in reduced insulation properties.

Fire and smoke behaviour

Thermaflex AC complies with the highest European standards regarding fire and smoke behaviour like M1 in France, B1 in Germany, Class 0 according to BS 476 part 6 and class 1 according to BS 476 part 7 in the United Kingdom, class 1 for flash over, and class 2 for spread of flame according to NEN 6065 in the Netherlands.

Moreover, the smoke index $D = 1.5 \text{ m}^{-1}$ is significantly lower than the smoke index of all other elastomers. This means that Thermaflex AC can be used in all sensitive situations, like public buildings, hospitals, ships, near emergency exits, etc. Also there will be hardly any toxic fumes during fire.



Temperature range

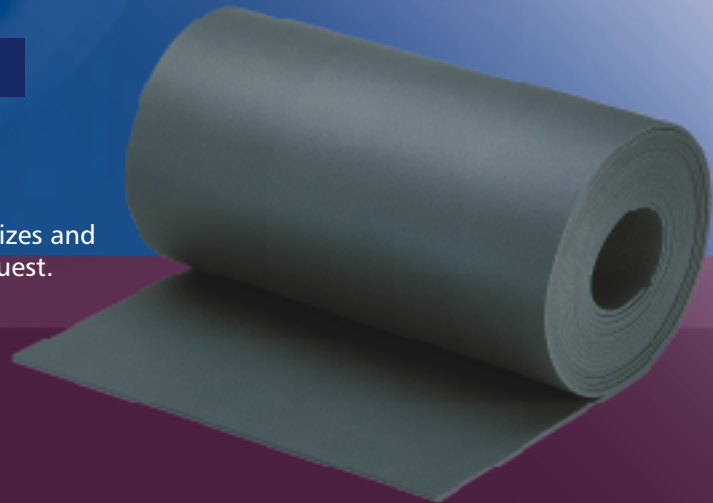
Thermaflex AC has a temperature range of -80°C to $+95^{\circ}\text{C}$ and stays completely flexible, also at extremely low temperatures. It is suitable for heating and cooling applications.

Application

Thermaflex AC is highly flexible and easy to apply. The Thermaflex AC tubes come with talcum powder inside, which facilitates the application around pipes. It is very strong, will not tear and is difficult to damage. It stretches easily. Also at temperatures of -20°C , like during maintenance repairs in cooling installations, Thermaflex AC will remain flexible and will not break.

Product Range

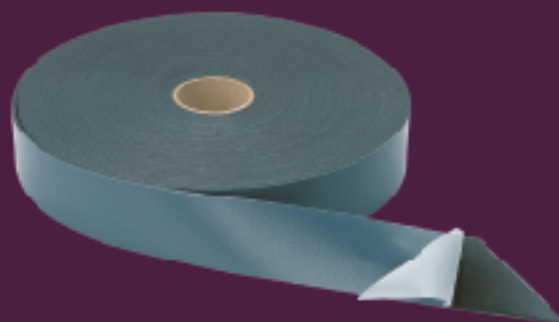
The current product range includes a variety of sizes and diameters that are suitable for copper, steel and plastic piping systems with an external diameter from 6 mm up to 114 mm. Wall thicknesses are available in 6, 9, 13, 19 and 25 mm. Larger sizes and other versions, like self-adhesive and coils are available on request. The Thermaflex calculation programme at our website (www.thermaflex.com) will help to determine the required insulation thickness. For the insulation of large surfaces, we recommend to use Thermasheet AC material.



Accessories



Glue pump



Thermatape AC



Thermaglué

Thermaflex AC

Technical properties

Physical properties	Testmethode	Data
Density	ASTM D 1667	25 - 35 kg/m ³
Cell structure	Digital Analysis	Very fine, closed cells
Colour		Anthracite
Thermal conductivity (λ)	DIN 52612/52613	0,034 W/mK at 0°C 0,038 W/mK at 40°C
Temperature range	DSC scan	from -80°C to +95°C
Water-vapour diffusion resistance (μ)	DIN 52615	7000
UV resistance	ISO 4892-2 Xenon-arc sources	>10 years
Odour		Neutral
Compression strength	ISO 844 /DIN 53577	Force 10% 0,035-0,045 N/mm ² Force 20% 0,045-0,055 N/mm ² Force 50% 0,060-0,080 N/mm ²
Compression set	ISO 844/DIN 53577	0 (direct rebound): 90-95% 1 (rebound after 1 hour) 98-100%
Fire performance	Germany: DIN 4102 The Netherlands: NEN 6065	B1 Flash over: Class 1 Spread of flame: Class 2
	UK: BS 476 Part 7	Class 1
	UK: BS 476 Part 6	Class 0
	UK: BS 476 Part 5	Passed
	France: P - 92507	M1
Smoke density	The Netherlands: NEN 6066 ASTM E662 - 97	Smoke number: $D_{L,max} = 1.5 \text{ m}^{-1}$ Burning D4 min = 70 Not burning D4 min = 25
Toxicity	Airbus Directive ABD 0031	Pass (both burning and not burning) Fumes do not contain cyanides, nitrous and sulphureous gasses
Puncture resistance	Shearing force caused by a 1mm rounded point	No damage
Tear strength	DIN 53577	Good
Chemical resistance	ASTM D 543	Excellent



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