

WARM
INTERNATIONAL

WARM FLEX
Rubber

ELASTOMERIC RUBBER FOAM
PIPE & ROLL



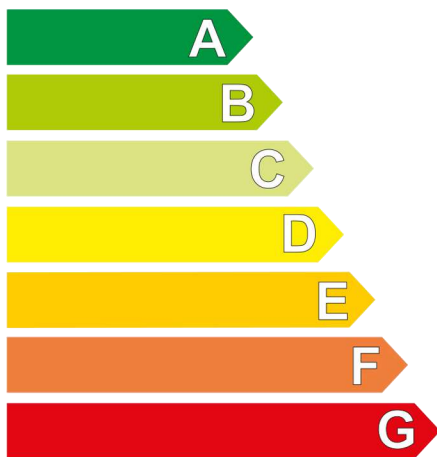
PRODUCT CATALOGUE

www.warm-international.com

The installation lines and the ventilation ducts are the points where the energy loss is observed intensively utmost. However it is possible to reduce this energy loss up to minimum levels by choosing the correct material and correct thickness of insulation.

WARM FLEX Elastomeric Rubber Foam Insulation products are able to fulfil your requirements at maximum level. It prevents the loss of energy due to ventilation ducts thus it saves energy by 80% depending on the thickness of insulation. At the same time this product undertakes the environmental responsibility.

WARM FLEX Elastomeric Rubber Foam Insulation products are being manufactured with covered porous cell structure in density of 50-70 kg/m³; furthermore thanks to high resistance it features against steam diffusion, it is a perfect insulation product that can be used in the air conditioner and cooling installations safely.



1st CLASS INSULATION
FOR A CLASS
ENERGY CONSUMPTION

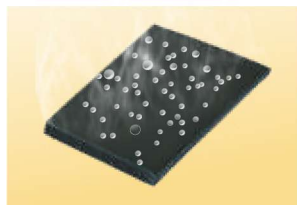
Technical Specifications

$\lambda < 0,035 \text{ W/m}\cdot\text{K}(0^\circ\text{C})$



Thermal conductivity (λ) is the primal expression of the insulating properties. Still air enclosed in the closed cells of the WARM FLEX-Rubber and low thermal conductivity characteristics of the elastomeric rubber foam provide significant reduction in heat transfer and the reduction value brings insulation surface temperatures to the ideal levels.

$\mu \geq 7000$



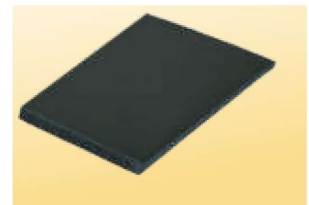
WARM FLEX-Rubber inherent structure by accurate density and closed cell amount, offers a very high resistance to vapor transmission ensuring a long term performance and effectiveness of the insulation. By its excellent μ value WARM FLEX-Rubber is the ideal solution which prevents condensation on the cooling and air conditioning systems.

Fire M1/Class 0



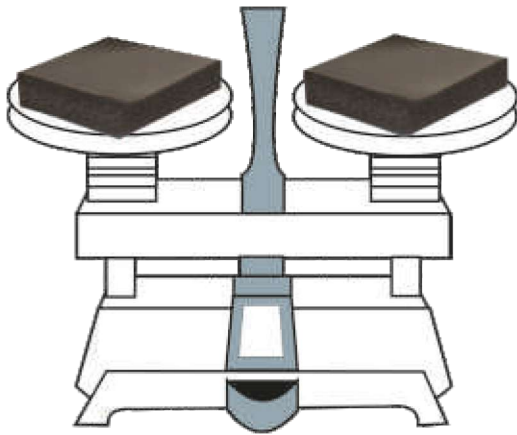
WARM FLEX-Rubber elastomeric rubber foam products are resistant to fire and do not allow flame expansion and flaming particle dripping. WARM FLEX-Rubber material characteristics are approved by independent and accredited laboratories, and respond all requirements for fire safety. Thus WARM FLEX-Rubber is used as the ideal insulation option for buildings.

Elasticity and Flexibility



WARM FLEX-Rubber with its excellent elasticity and flexibility characteristics provides significant time and labor savings to the investors and installers by its ease of use even in hard to form parts (like T's or corners), of the installations.

ACCURATE DENSITY



Thermal conduction coefficient value highly correlates with the density of the insulation material. It is easy to observe that if low density insulation materials are used to insulate a system, measured heat transfer rates due to convection and radiation are significantly high comparing to the high density materials. But heat transfer due to conduction represents reverse reaction for the same cases, for high density materials, measured heat transfer rates are high rather than low density materials. Therefore the best insulation properties can be obtained by assessing the density value at the equilibrium value of the heat transfer

rates. With this density the material has the optimum thermal conduction coefficient thus best insulation properties, and beyond the concerning values the thermal conduction coefficient tends to increase. High density and very small cell structures and low density (means less production costs) and large cell structures both result significantly poor insulation characteristics for the material. So the number of closed cells in unit area and their sizes and the correct density are criterias for selecting right insulation materials. WARM FLEX-Rubber foam insulation products have the optimum values for cell amounts and densities that are 100-120 cells/m² and 50-70 Kg/m³ for perfect insulation properties and resulting highest efficiency.



It is obviously known that the material type is of importance as much as the insulation material used in places where the quality indoor area is required such as the hospital, sport centres, schools, shopping malls, offices etc in order to enable the installation to function properly. The insulation products that cannot prevent the required technical parameters face to serious problems by the time so it reduces the indoor air quality significantly.

The moisture flow is produced due to partial pressure that has occurred depending on the differences between temperature and relative humidity at the points where two air flows meet each other. The condensation e.g. sweating occurs in the sections with low surface temperature. As a result of this process, some negative situations such as mould growth, fungi formation are observed and mixed with the indoor air. In order to prevent such negative effects, the insulation materials in correct density should be chosen.

ELASTOMERIC RUBBER FOAM PIPES

WARM FLEX Rubber elastomeric foam-rubber pipes are manufactured within the minimum and maximum tolerances thus enable the installations to be done properly and efficiently. So it provides the insulation with more efficiency and easier. In addition to the standard material, it is also available with the options e.g. aluminum folio covered and PVC + Aluminum folio covered products.



THICKNESS & DIMENSION OF RUBBER INSULATION PIPE

Cu Pipe	Fe Pipe	Internal Diameter	THICKNESS OF RUBBER INSULATION PIPE					
			6 MM	9 MM	13 MM	19 MM	25 MM	30 MM
inch	inch	mm	m/box	m/box	m/box	m/box	m/box	m/box
1/4"		6	420	270	---	---	---	---
5/6"		8	320	---	---	---	---	---
3/8"	1/8"	10	300	190	108	80	---	---
1/2"		12	250	170	120	70	---	---
5/8"		15	200	140	100	50	---	---
3/4"	3/8"	18	180	130	90	50	40	32
7/8"	1/2"	22	144	100	70	44	32	24
1"	---	25	120	80	---	---	---	---
1 1/8"	3/4"	28	120	80	60	40	26	24
---	---	30	---	---	---	---	---	24
1 3/8"	1"	35	108	70	44	30	24	18
1 5/8"	1 1/4"	42	60	60	36	28	22	16
	1 1/2"	48	---	40	30	22	18	14
2 1/4"	---	54	---	36	26	20	16	12
2 3/8"	2"	60	---	32	24	16	12	10
2 1/2"	---	64	---	32	22	16	---	10
3"	2 1/2"	76	---	20	20	14	10	10
3 1/8"	---	80	---	---	---	---	---	8
3 9/16"	3"	89	---	20	14	12	8	8
4"	---	101	---	16	12	8	---	---
4 1/4"	---	108	---	16	10	---	6	---
4 1/2"	4"	114	---	12	16	8	6	6
5 1/2"	5"	139	---	---	8	6	---	---

ALUMINIUM LAMINATED ELASTOMERIC RUBBER FOAM PIPES



WARM FLEX-Rubber - AL

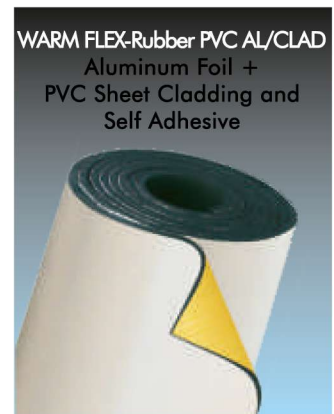
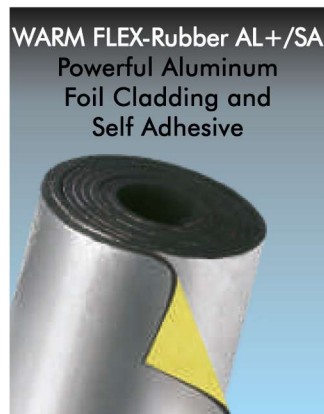
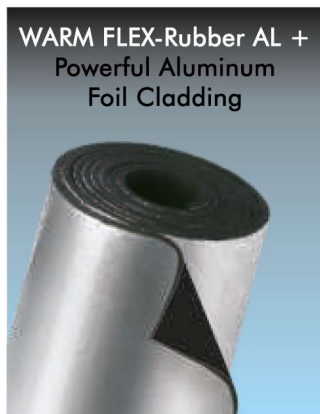
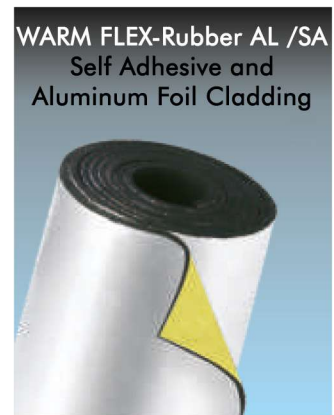
- WARM FLEX Rubber elastomeric rubber foam pipes are manufactured with AL laminations
- AL Foil of 65 micron thickness is used as laminating material
- WARM FLEX Rubber-AL provides maximum UV resistance
- WARM FLEX Rubber-AL provides maximum resistance to outdoor conditions
- WARM FLEX Rubber-AL has very high vapor diffusion coefficient, $\mu \geq 150.000$
- WARM FLEX Rubber-AL has aesthetic appearance
- WARM FLEX Rubber-AL does not require any additional coverings thus very economical

ELASTOMERIC RUBBER FOAM SHEETS

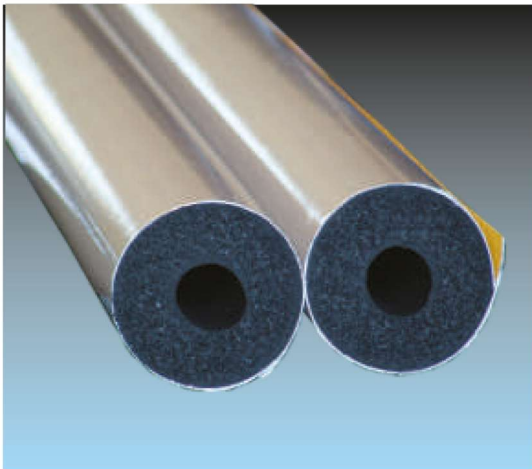
WARM FLEX Rubber is the name of the rubber foam insulation materials in the form of sheet. Excellent flexibility and high strength features make WARM FLEX Rubber very convenient for insulating large surfaces of industrial equipments like big pipes, ducts, boilers etc.

WARM FLEX Rubber with or with out self adhesive and/or AL laminations provide ideal heat insulation and eliminate condensation problems of the

Thickness mm	m ² / Roll	Dimensions (Rolls/m)
3	45	1x45
6	30	1x30
10	20	1x20
13	14	1x14
16	12	1x12
19	10	1x10
25	8	1x8
32	6	1x6
36	5	1x5
40	4	1x4
50	4	1x4



ELASTOMERIC RUBBER FOAM PIPE AND SHEET COATED WITH PVC AND ALUMINUM



TECHNICAL SPECIFICATIONS OF PVC COATING WITH ALUMINUM FOLIO LAMINATION

Structure	PVC,Aluminum,Pet
Thickness	405 Micron
Weight	578 gr/m ²
Stroke resistance	>550 kJ/m ²
Stretching force	>40n/mm ²
Stretching extension	>150 %
Fire behavior	No flammable (DIN4102-B1)
Humidity/resistance factor	> 140.000

For those who seek the quality in insulation

- WARM FLEX Rubber is produced especially for heating and cooling systems, air conditioning, canal, pipe equipment and armatures by coating elastomeric rubber foam with PVC and aluminum foil.
- No flammable, no burning, no explosive according to the requirements of DIN 4102 B1.
- Resistant against some chemicals such as acid, salt, benzene and water and water vapor.
- Not affected by harmful UV rays of the sun thus can be used in outdoor areas.
- For air conditioning canals, produced in the shape of Roll and Sheet in different sizes with one sticky side.
- Brings no additional mechanical load in the assembly. (lighter by 2 folds compared to aluminum sheet and 5 folds to galvanized sheet)
- Hygienic so easily cleaned when it is dirty.
- Light thus offers easy transport and storage.
- Elastic thus not affected by mechanical strokes; on the event of crushing, impacts, etc. takes its previous shape back when the pressure disappears.
- Cheaper by 50% than sheet metal coated insulation in terms of time and labor cost.
- If applied properly, increases the vapor diffusion resistance of the system to $m \geq 150.000$
- A long lived insulation material.
- No need for additional machinery or equipment for production and assembly (such as caka, guillotine, forklift, workshop hoist, etc.)
- Falcate, adhesive and tape for joints are enough as production and installation equipment.
- Has a smooth surface and aesthetical appearance.
- In outdoor areas, it becomes integrated into the environment it is assembled thanks to the aesthetic and elegant appearance.



ACCESSORIES

WARM FIX ADHESIVES FOR INDUSTRIAL COATINGS

- Gluing insulation products for installations like polyethylene and rubber foam insulation materials.
- Gluing and fixing acoustic insulation materials, acoustic panels and pipes.
- Bonding sponge, fabric, felt etc.
- It is used for wood and decorative laminates, leather, cork, felt, rigid PVC, bonding veneer strips to edges and curves Gluing wooden profiles, MDF, rubber, chipwood, plastic and rubber, repairing and fixing of wooden parts.
- It is used for wood and decorative laminates, leather, cork, felt, rigid PVC, bonding veneer strips to edges and curves Gluing wooden profiles, MDF, rubber, chipwood, plastic and rubber, repairing and fixing of wooden parts.

WARM TAPE HVAC TAPES

The rubber bands are used to cover the openings or some joint points that may occur in the course of application of rubber foam insulation products. These rubber bands that have been manufactured generally in 3 and 6 mm as standard are offered with the straight or mesh supported types because of its adhesiveness specification.

RUBBER FOAM TAPE



The aluminium bands manufactured as standard in width of 5 cm, 7,5 cm and 10 cm are used to cover the joint points resulted during the application of rubber pipes and plates covered with aluminium folio. It is offered with the straight or mesh supported types because of its adhesiveness specification.

ALUMINUM FOIL TAPE



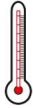
Depending on the multipurpose using areas of PVC bands, it features differently upon the specifications of the application area. Particularly the black coloured PVC bands are preferred to use for covering the joint points and the openings occurred in the course of application of uncovered rubber insulation products.

PVC TAPE



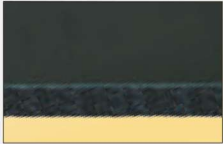
WARM FLEX Elastomeric Rubber Foam Insulation Technical Specifications

Operating Temperature



The suggested temperature of operating for the WARM FLEX Rubber foam is given as follows;
 Pipes : **-40, +116°C**
 Plate and rolls : **-40, + 85°C**

Density



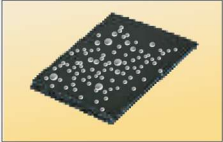
WARM FLEX Rubber insulation products offer the most productive and appropriate insulation opportunities thanks to the closed cell structure (100-120 cell/cm²) and optimum intensive base.
 (60-75) kg/m²

Heat permeability coefficient (λ)



WARM FLEX Rubber insulation products reduces heat transfer significantly thanks to the stable air kept in the closed cells and low heat transfer characteristic of elastomeric material.
 at 0°C **0035W/(m·K)**
 at + 20°C **0037W/(m·K)**

Steam diffusion coefficient (μ)



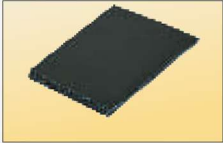
The material and the inner structure of WARM FLEX Rubber insulators are resistant against the steam diffusion significantly
≥ 7000

Fire



WARM FLEX Rubber is not flammable, explosive and burning material thus ensures very safe insulation in the buildings.
Class 0 : BS 476 (UK)
B1: DIN 4102 (Germany)
MI: NFP 92501 (France)

Flexibility elasticity



A superior flexibility of WARM FLEX Rubber foam provides a productive insulation, easy and fast assembly.
 Stretching resistance : **0.32 Mpa**
 Torn and break off resistance : **203%**
 Resistance against to be torn : **1.59 KN/m**

Sound insulation

Over 32 Db

Outdoor Resistance

High

Color & Odor

Black & Natural





AUTHORIZED DISTRIBUTOR



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