

Armaflex[®] LTD

ARMAFLEX FLEXIBLE INSULATION MATERIAL FOR CRYOGENIC AND LOW TEMPERATURE APPLICATIONS



- Stays flexible at low temperatures
- Reduces the risk of crack development and propagation
- Reduces the risk of corrosion under insulation (CUI)
- Protects against mechanical impact and shock

- Low thermal conductivity
- Low glass transition temperature
- Easy installation even to complex shapes
- Less wastage compared to rigid / pre-fabricated pieces

Technical Data - Armaflex LTD

Brief description	Highly-flexible, closed-cell cryogenic insulation material for use in Armaflex® Cryogenic Systems, providing reliability and performance on industrial process pipework and tanks.
Material type	Elastomeric foam based on synthetic rubber. Factory made flexible elastomeric foam (FEF) according to EN 14304.
Colour	Blue, Grey
Material Special Information	Armaflex® LTD is suitable for a range of operating conditions including natural gas installations. However, it is not recommended for application to process pipelines and equipment carrying liquid oxygen or gaseous oxygen lines and equipment running above 15 bar pressure or above 60 °C. For detailed information or advice please refer to our Customer Service Centre.
Applications	Insulation / protection for pipes, tanks, vessels (incl. elbows, flanges etc.) in petrochemical, industrial gas, and agricultural chemical production plants. Product specially designed for use on import/export pipelines and process areas of LNG facilities.
Special Features	A high-performance thermal insulation material designed to meet the demands of low-temperature environments. Armaflex® LTD is part of Armaflex® Cryogenic Systems, providing low temperature flexibility to the system.
Assembly	The Armaflex® Installation manual should be consulted before assembly. Please consult our Customer Service Centre.
Remarks	EC Certificate of Conformity no. 0543 of Güteschutzgemeinschaft Hartschaum e.V., Celle

Property	Value/Assessment	Test ¹	Super- vision ²	Special Remarks
Temperature Range				
Temperature Range	Max. service temperature +110 °C (+ 85 °C if sheet is glued to the object with its whole surface)			Tested according to EN 14706, EN 14707 and EN 14304
	Min. service temperature ¹ -180 °C			
Thermal Conductivity				
Thermal Conductivity	ϑ_m 0 °C $\lambda =$		o	Declared according to EN ISO 13787 Tested according to EN 12667 EN ISO 8497
	Sheets & Tubes (25mm) $\lambda \leq 0.040$ W/(m · K) [40 + 0.1 (T [°C])/1000			
Water vapour diffusion resistance				
Water vapour diffusion resistance	For details on system performance please contact our Customer Service Centre			
Fire performance				
Reaction to fire	Surface spread of flames Euroclass E	D 4696 EU 5035 EU5035	o	Tested acc. to BS 476 Part 7:1997 Classified acc. to EN 13501-1. Tested acc. to EN 11925-2
Other fire class	BS 476 Part 7 Class 1 ASTM E84 Class A (< 25 flame spread)			BS 476 Class 1 Approved by Lloyds
Other technical features				
Density	60 - 75 kg/m ³			Tested according to ISO 845
Dimensions and tolerances	In accordance with EN 14304, table 1			Tested according to EN 822, EN 823, EN 13467
Water absorption ²	≤ 0.1 %			Tested according to ASTM C534 / C209
Closed cell content	> 90 %			Declared on the basis of water absorption test
Compression deflection @ 25%	> 10 kPa			Tested according to ISO 6916-1
pH Value	7 - 9			ISO 6916-1
Glass Transition Temperature	Below -70 °C			Dynamic Mechanical Analysis (DMA)
Leachable Chlorides	< 80 ppm			Tested according to EN 13468, ASTM C871

1. For some applications below -110 °C the system is installed with an anti-abrasive foil, bonded to the inner surface layer. Please consult our technical services department for further information.

2. Based on single test results which are not monitored in regular frequency. Can be used for information only.

*1 Further documents such as test certificates and approvals can be requested using the registration number given.

*2 • Official supervision by independent institutes and /or test authorities
o: In-house quality monitoring

All statements and technical information are based on results obtained under typical conditions. It is the responsibility of the recipient to verify with us that the information is appropriate for the specific use intended. Installation instructions are given in our Armaflex installation manual. Please consult our Technical Department before insulating stainless steel. Armaflex 520 or Armaflex HT 625 Adhesive must be used to guarantee proper installation. For outside use, Armaflex should be protected with a suitable outer covering within 3 days of installation. For applications related to the processing or storage of oxygen, please consult our technical services department. Armacell takes every precaution to ensure the accuracy of the data provided in this document and all statements, technical information and recommendations contained within are believed to be correct. However, Armacell cannot guarantee that the data are 100 % accurate. Furthermore, minor deviations in colour, quality and dimensions are unavoidable and in most cases do not influence the performance of the product. Armacell expressly disclaims any and all liability in relation to any results obtained or arising from any use of the product or reliance on such information. No warranty of fitness for any particular purpose, warranty of merchantability or any other warranty, expressed or implied, is made concerning the goods described or the information provided herein. All the statements and technical information within this document should be read in conjunction with the customer's own specification. It is the responsibility of the recipient to inform all involved parties about the content of these documents. The described and recommended methods should be strictly followed. If there is a requirement to deviate from our recommendations, please contact us in advance to discuss possible suitable alternatives. Armacell will not be liable for any claim resulting from a failure to observe our specification or any other agreed solutions and from non-observance of the customer's specification. For temperatures above +110 °C please contact our Customer Service Centre to request the corresponding technical information.

Armaflex LTD tubes



Length 2.0 m, Armaflex LTD insulation maintains flexibility at extreme low temperatures.

Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm (tube)	25,0 mm insulation thickness		
		Code	m/carton	
18	19.5 - 21.0	LTD-25X018 ●	36	
22	23.5 - 25.0	LTD-25X022 ●	32	
28	29.5 - 31.0	LTD-25X028 ●	24	
35	36.5 - 38.5	LTD-25X035 ●	24	
42	44.0 - 46.0	LTD-25X042 ●	20	
48	50.0 - 52.0	LTD-25X048 ●	18	
60	62.0 - 64.0	LTD-25X060 ●	12	
76	78.0 - 80.0	LTD-25X076 ●	10	
89	91.0 - 94.0	LTD-25X089 ●	8	

Length tolerance for tubes:

± 1.5 %

Remark

Armaflex LTD should only be installed as part of the Armaflex Cryogenic System.

- Not a stock item. Delivery on request.

Armaflex LTD continuous sheets (rolls)



Armaflex LTD flexible insulation maintains flexibility at extreme low temperatures.

Code	Thickness [mm]	Roll length [m]	m ² /carton	
LTD-25-99/E ●	25.0	4	4	

Remark

Armaflex LTD should only be installed as part of the Armaflex Cryogenic System.

- Not a stock item. Delivery on request.

Armaflex LTD anti-abrasive foil



Colour Silver, Aluminium vapour barrier foil, thickness 12 µ

Code	Width [mm]	Roll length [m]	Rolls/carton	m ² /carton	
LTD-1/25 ALU ●	1,000.0	25	1	25	
LTD-1/50-ALU ●	1,000.0	50	1	50	

Remark

Rolls of 50m length can be replaced by two 25 m rolls.

- Not a stock item. Delivery on request.

Armaflex LTD accessories



Code	Description	Pieces/carton	
ADH-HT625/1,0	Armaflex® HT625 one-component adhesive, 1,0 litre cans	12	
CLEANER/1,0	Special cleaner for use with Armaflex® Adhesive 520 and Armaflex® Adhesive HT625.	4	