



INSTALL SAFETY

ArmaFlex Ultima[®]

The first flexible technical insulation material
to meet fire class B_L-s1, d0

- // Low smoke emission during a fire
- // Meets the requirements for sustainable construction
- // Complete system integration with adhesives and pipe support

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 **armacell**[®]
ArmaFlex Ultima[®]

ArmaFlex Ultima

Low flammability. Low smoke development.
First flexible technical insulation material
to achieve B_L-s1,d0 classification.

**10x less
smoke
development**



NEW SAFETY STANDARD IN TECHNICAL INSULATION

During a fire, people have just a few minutes to escape because just three breaths of highly toxic fire smoke can be lethal. The European fire classification takes into consideration when assessing the fire behaviour of building materials, testing not just flammability, but also smoke density and the production of burning droplets.

Based on Armacell's patented ArmaPrene® technology, ArmaFlex Ultima is the first flexible technical insulation material to achieve the fire class B_L-s1, d0. It **exhibits 10 times less smoke development** as compared to standard flexible elastomeric foam insulation.

COMPLETE SYSTEM



ArmaFlex Ultima is complemented with its own range of tape and adhesives, as well as ArmaFix® Ultima pipe supports to offer **a complete system solution**. Also, a range of solvent-free accessories is available to meet the higher requirements of green building schemes regarding environmental and health aspects of building products.

ArmaFlex Ultima SF990 adhesive is a solvent-free adhesive, recently recognised by the Swiss Minergie-Eco assessment system as being "very well-suited" (first priority in accordance with ECO-BKP).

ArmaFlex SF cleaner is used to clean soiled surfaces of technical installations and surfaces of insulation materials prior to adhesion to ensure a firm seal. The cleaner is supplied in a practical spray bottle so that it can be applied sparingly and precisely.

» We used ArmaFlex Ultima for the first time on cold installations in Yara's German distribution centre. The foam is very flexible, but it is firmer than other rubber insulation materials and keeps its shape very well. The product can be cut and glued very easily and neatly.«

Jürgen Saalfeld, Insulation contractor
Schmengler Dämmtechnik GmbH

SUSTAINABLE CONSTRUCTION

IN 2009, WE BECAME THE WORLD'S FIRST MANUFACTURER OF FLEXIBLE TECHNICAL INSULATION MATERIALS TO CARRY OUT LCAS AND PUBLISH EPDS.

An Environment Product Declaration (EPD) is a neutral, independently verified document that provides information about the impact a product has throughout its life cycle - and in particular its impact on the environment. The fact that one EPD can be compared with another facilitates product evaluation, especially when designing green buildings in line with certification schemes such as Leadership in Energy and Environmental Design (LEED®).

A Life Cycle Assessment (LCA) quantifies the direct and indirect environmental impact associated with the life cycle of a product from the raw material extraction, materials' processing and manufacturing through distribution and use to its ultimate disposal. As an LCA provides specific information on an individual manufacturer's products, the results serve as a valuable benchmark.

TECHNICAL DATA - ARMAFLEX ULTIMA

Brief description	ArmaFlex Ultima is a flexible, closed-cell elastomeric foam based on a patented synthetic rubber composition. It offers improved fire retardant properties and low smoke generation.
Material type	Factory-made flexible elastomeric foam (FEF), based on rubber, according to EN 14304. Manufactured with Armacell's patented ArmaPrene technology (US Patent no. 8,163,811, EU patent no. 2 261 305.)
Additional material information	Self-adhesive coating: pressure-sensitive adhesive coating on modified acrylate basis with mesh structure, covered with polyethylene foil. Traces of silicon can be found on the protection paper/foil used to protect self-adhesive closures.
Colour	Dark blue.
Special features	Low smoke performance.
Applications	Insulation of pipes, air ducts, vessels (incl. elbows, fittings, flanges etc.) to prevent condensation and save energy. Self-adhesive tubes should be further secured with ArmaFlex Ultima tape.
Installation	Please refer to the ArmaFlex installation manual for advice. ArmaFlex Ultima can be used together with ArmaFlex Ultima 700 adhesive, ArmaFlex Ultima SF990 adhesive, ArmaFix Ultima pipehangers and ArmaFlex SF Cleaner for a complete insulation system.
Remarks	Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on www.armacell.com/DoP .

Property	Value/Assessment		Standard/Test method
Temperature range			
Service temperature	Max. service temperature	+110 °C	+85 °C if sheet or tape is glued to the object with its whole surface Tested according to EN 14706, EN 14707 and EN 14304.
	Min. service temperature ¹	-50 °C (-200 °C)	
Thermal conductivity			
	θ_m	+/-0	Declared according to EN ISO 13787. Tested according to EN 12667, EN ISO 8497.
	$\lambda \leq$	0.040 $\lambda = [40 + 0.1 \cdot \theta_m + 0.0009 \cdot \theta_m^2] / 1000$	
Water vapour diffusion resistance			
Water vapour diffusion resistance factor	$\mu \geq 7,000$		Tested according to EN 12086, EN 13469.
Fire performance and approvals			
Reaction to fire	Tubes, self-adhesive tubes and open tubes (up to 300 mm insulated Øa)	B _L -s1, d0	Classified according to EN 13501-1. Tested according to EN 13823 and EN ISO 11925-2.
	Sheets and self-adhesive sheets	B-s2, d0	
	Tape	B-s1, d0	
Others	Marine application: Low flame spread material		Classified according to IMO 2010 FTP-Code
Practical fire behaviour	Self-extinguishing, does not drip, does not spread flames; low smoke density		
Fire resistance of structural element	EI 30 - EI 120		Classified according to EN 13501-2. Tested according to EN 1366-3.
Flammability	FM-Approved (up to 25mm)		Tested according to UBC26-3, Class No. 4924
Other technical features			
Dimensions and tolerances	In accordance with EN 14304, table 1		EU 5846. Tested according to EN 822, EN 823, EN 13467
UV resistance ²	Protection against UV radiation is necessary.		
Antimicrobial behaviour	No fungal growth is observed.		Tested according to EN ISO 846 (VDI 6022)
Environmental aspect	Type III Environmental Product Declaration (EPD): Declaration number EPD-ARM-20150109-IBB1-DE"; Institut Bauen und Umwelt e.V. (IBU). Meets the requirements for sustainable construction, such as LEED, with ArmaFlex Ultima SF990 adhesive.		
Storage	Self-adhesive tubes, self-adhesive sheets and self-adhesive tape: 1 year. Can be stored in dry, clean rooms at normal relative humidity (50% to 70%) and ambient temperature (0 °C – 35 °C).		

1. For temperatures below -50 °C please contact our Customer Service Center to request for the corresponding technical information.

2. If ArmaFlex is applied under UV-radiation the material must be protected within 3 days with a covering or painting.

All data and technical information are based on results achieved under typical application conditions. Recipients of this information should, in their own interest and responsibility, clarify with our Technical department in due time whether or not the data and information apply to the intended application area. Installation instructions are available in our ArmaFlex installation manual. Please consult our Customer Service Centre before insulating stainless steel. For some refrigerants, the discharge temperature may exceed +110 °C, please consult our Customer Service Centre for further information.

Tubes (Length: 2.0m)

9mm		13mm		19mm		25mm		32mm		Pipe maximum outer diameter [mm]
Item	Carton content	Item	Carton content	Item	Carton content	Item	Carton content	Item	Carton content	
	[m]		[m]		[m]		[m]		[m]	
		UD-13X006	164							6
		UD-13X010	140	UD-19X010	92					10
UD-09X012#	192	UD-13X012	130	UD-19X012	84					12
UD-09X015	180	UD-13X015	112	UD-19X015	64			UD-32X015#	32	15
UD-09X018	150	UD-13X018	98	UD-19X018	58	UD-25X018	46	UD-32X018#	32	18
								UD-32X020#	24	20
UD-09X022	124	UD-13X022	88	UD-19X022	56	UD-25X022	36	UD-32X022#	24	22
UD-09X028	96	UD-13X028	64	UD-19X028	40	UD-25X028	36	UD-32X028#	24	28
UD-09X035	70	UD-13X035	56	UD-19X035	40	UD-25X035	28	UD-32X035#	18	35
UD-09X042	56	UD-13X042	48	UD-19X042	24	UD-25X042	24	UD-32X042	16	42
UD-09X048	52	UD-13X048	40	UD-19X048	24	UD-25X048	20	UD-32X048	12	48
UD-09X054	42	UD-13X054	36	UD-19X054	24	UD-25X054	18	UD-32X054	12	54
UD-09X060	40	UD-13X060	28	UD-19X060	16	UD-25X060	18	UD-32X060	10	60
UD-09X064#	28	UD-13X064#	26	UD-19X064	16	UD-25X064	16	UD-32X064#	10	64
UD-09X076	32	UD-13X076	24	UD-19X076	16	UD-25X076	12	UD-32X076	10	76
UD-09X089	24	UD-13X089	18	UD-19X089	16	UD-25X089	12	UD-32X089	8	89

*Made to order. Minimum order quantities and different lead times may apply.

Self-adhesive option available upon request. Minimum order quantities and different lead times may apply.

Other information

Length tolerance	± 1.5%
Thickness tolerance	9mm, 13mm: ± 1.5mm 19mm, 25mm, 32mm: ± 2.5mm
Reaction to fire	B _L -s1, d0
Remark	Up to 10% of the carton content can be delivered with tubes of 1m lengths. For carton contents below 20m, a single 2m tube can be replaced with two pieces of 1m tubes.

Rolls (Width: 1.0m)

Item	Insulation thickness [mm]	Length [m]	Carton content [sqm]
UD-06-99/E	6	15	15
UD-09-99/E	9	10	10
UD-13-99/E	13	8	8
UD-19-99/E	19	5	5
UD-25-99/E	25	4	4
UD-32-99/E#	32	3	3

*Made to order. Minimum order quantities and different lead times may apply.

Self-adhesive option available upon request. Minimum order quantities and different lead times may apply.

Other information

Length tolerance	± 1.5%
Thickness tolerance	6mm: ± 1.0mm 9mm - 19mm: ± 1.5mm 25 - 32mm: ± 2.0mm
Reaction to fire	B-s2, d0

Accessories

Item	Carton content	Article description
UD-TAPE	12 rolls	ArmaFlex Ultima insulation tape (3mm thickness x 50mm width x 15m)
AHU-700/1,0	12 x 1.0 litre cans	ArmaFlex Ultima Adhesive 700
AHU-SF990/0,8	12 x 0.8 litre cans	ArmaFlex Ultima Adhesive SF990
SF-CLEANER/1,0	6 cans	Solvent-free cleaner for use with ArmaFlex



**BUREAU
VERITAS**



All data and technical information are based on results achieved under the specific conditions defined according to the testing standards referenced. It is the customer's responsibility to verify if the product is suitable for the intended application. The responsibility for professional and correct installation and compliance with relevant building regulations lies with the customer. 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 at the time of publication. By ordering/receiving product you accept the **Armacell General Terms and Conditions of Sale** applicable in the region. Please request a copy if you have not received these.

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ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With 3,100 employees and 24 production plants in 16 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.

For more information, please visit:
www.armacell.com


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