INSTALL IT. TRUST IT.

ArmaFlex
Ultima

The first flexible insulation with low smoke emissions for improved fire safety

// The best flexible insulation with low smoke density in case of fire
// Based on Armacell's patented ArmaPrene technology
// Complete system integration with adhesives and ArmaFix Ultima pipe hangers
// Meets the requirements for sustainable construction in combination with ArmaFlex Ultima SF990 Adhesive
// FM approved
// IMO compliant

armacell®
ArmaFlex®

INSTALL IT. TRUST IT.

ArmaFlex Ultima

- FIRE SAFETY
- ENERGY EFFICIENCY
- CONDENSATION CONTROL
- INDOOR AIR QUALITY
- LONG-TERM SAFE OPERATION

With ArmaFlex Ultima we have set a new safety standard in technical insulation. Based on the patented ArmaPrene® technology, we now offer a complete range of B/B_L-s1,d0 classified tubes and sheets.

In comparison to a standard elastomeric product, the flame-resistant insulation material develops 10 times less smoke and offers increased safety in the event of a fire.

ULTRA-LOW SMOKE PROPERTIES

As smoke is a significant risk in a fire, smoke density requirements for equipment insulation materials are becoming stricter. When assessing the fire behaviour of building products, the European fire classification not only tests the flammability, but also the smoke density and the production of burning droplets. By reducing the smoke density, ArmaFlex Ultima improves visibility and respiration, thus extending the time available to evacuate safer in the event of a fire.

RELIABLE THERMAL AND CONDENSATION CONTROL

Thanks to its good thermal conductivity and high resistance to water vapour diffusion, the closed-cell ArmaFlex Ultima ensures reliable condensation control and high energy savings in the long-term. This also minimises the risk of corrosion under insulation (CUI) and reduces the risk of costs associated with downtime, lost productivity, or even facility shutdown. ArmaFlex Ultima can be installed on mechanical equipment with service temperatures between +110 °C and -50 °C (-200 °C)*. It is FM-approved and IMO-certified.

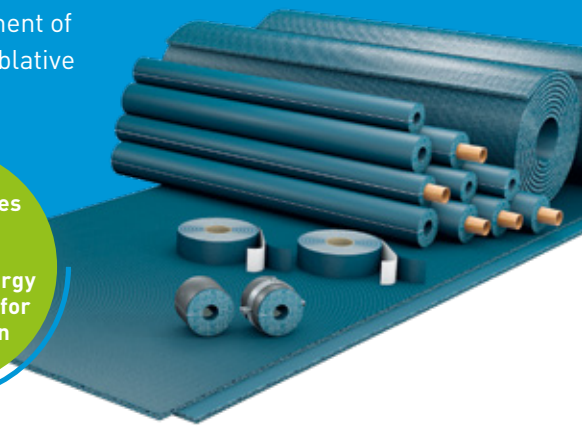
*Please contact our Technical Customer Service for cryogenic applications

ARMAPRENE

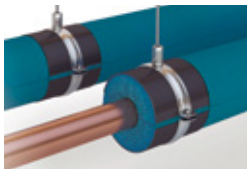
Our patented ArmaPrene technology offers the highest fire standard in flexible insulation.

While standard elastomeric products with brominated flame retardants inhibit combustion very effectively in the event of a fire, they tend to produce a high level of smoke. Our breakthrough ArmaPrene technology resolves this conflict: due to the development of intrinsically flame-resistant polymers and by using ablative protective additives it is no longer necessary to add any brominated flame retardants.

ArmaFlex saves
140
times more energy than is needed for its production



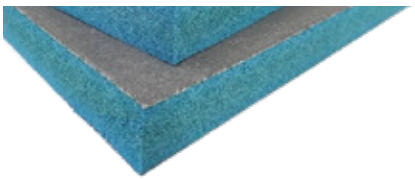
SYSTEM SOLUTION FOR MAXIMUM RELIABILITY



ArmaFix Ultima pipe support thermally isolates the pipe and its fixing from each other and, together with the adjoining ArmaFlex Ultima insulation, forms a long-term reliable insulation system. For the installation of ArmaFlex Ultima, we offer a range of specially formulated adhesives, including a solvent-free product which is predestined for sustainable construction projects realised according to LEED®, BREEAM, DGNB or national green building schemes.

ARMAFLEX ULTIMA C

With our new ArmaFlex Ultima C, we now offer insulation sheets meeting the highest fire classification for flexible technical insulation. This pre-covered insulation solution achieves Euroclass B-s1,d0 and is engineered for installation on airducts, large pipe diameters, vessels and tanks where an improved fire performance is required. The sheets provide a high level of protection against mechanical impact and are easy to clean. The covering reinforces the vapour barrier resistance creating a safer system to prevent condensation and energy losses in the long term. What's more, the dark-grey surface is highly absorptive and thinner insulation thicknesses can be installed to control condensation.



APPROVED FOR GREEN BUILDING

ArmaFlex Ultima meets the most stringent environmental requirements and saves specifiers time by being accredited in the most important green building schemes.

SUNDAHUS
NORDIC SWAN ECOLABEL
BYGGVARUBEDÖMNINGEN
MINERGIE-ECO
LEED | BREEAM | DGNB

Bromine-free
Antimony-free
PVC-free

TECHNICAL DATA - ARMAFLEX ULTIMA

Brief description	Flexible elastomeric foam on the basis of patented synthetic rubber composition with improved fire retardant properties, low smoke generation and a closed-cell material structure. For use in HVAC, refrigeration and process equipment applications.
Material type	Factory-made flexible elastomeric foam (FEF), according to EN 14304.
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.
Product colour range	Dark blue
Special features	Low smoke performance.
Applications	Insulation/protection of pipes, air ducts, vessels (including elbows, fittings, flanges, etc.) to prevent condensation and save energy. Self-adhesive tubes shall additionally be secured by applying ArmaFlex Ultima tape.
Declaration of performance	Declaration of Performance in accordance with Article 7(3) of Regulation (EU) No 305/2011 is available at www.armacell.com/DoP.

Property	Value / Assessment		Standard / Test method
Temperature range			
Service temperature[1]	Min. °C	Max. °C[2]	EN 14706, EN 14707, EN 14304
	-50	110	
	Remarks	For temperatures below -50 °C (till -200 °C), please ask our customer service for relevant technical information.	
Thermal conductivity			
Declared thermal conductivity	ϑm	0 °C	EN ISO 13787, EN 12667, EN ISO 8497
	$\lambda d \leq$ [W/(m·K)]	0.040	
	Formula	> 0°C: $\lambda d = [40 + 0{,}1 \cdot \vartheta m + 0{,}0009 \cdot \vartheta m^2]/1000$ ≤ 0 °C: $\lambda d = [41{,}25 + 0{,}1 \cdot \vartheta m - (\vartheta m+50)^2 \cdot 0{,}0005]/1000$	
Fire Performance and Approvals			
Reaction to fire	Tubes, Tubes self-adhesive, open tubes (up to 300 min insulated Øa): B(L)-s1,d0 Sheets, sheets self-adhesive: B-s2,d0 Tapes: B-s1,d0		EN 13501-1, EN ISO 11925-2, EN 13823
Surface flammability[3]	low-flammable - 2010 FTP-Code (MED 96/98/EC, Module D)		IMO 2010 FTP Code, Part 5
FM approved	4924-Pipe and Duct Insulation		UBC26-3
Passive fire protection			
Fire resistance of elements of construction	EI 30 - EI 120		EN 13501-2, EN 1366-3
Fire performance			
Practical fire behaviour	Self-extinguishing, does not drip, does not spread flames; very low smoke density		
Resistance to water vapour			
Water vapour diffusion resistance factor	$\mu \geq 7{,}000$		EN 12086, EN 13469
Physical attributes			
Dimensions and tolerances	in accordance with EN 14304, table 1		EN 822, EN 823, EN 13467
Weather and UV resistance			
UV resistance[4]	Protection against UV radiation is necessary (see Technical Bulletin no. 142).		
Health and environment			
Volatile organic compounds (VOC) content	Fulfills all VOC requirements (French, Italian, Belgian, German AgBB, Blauer Engel and Eurofins Indoor Air Comfort GOLD).		ISO 16000 Parts 3, 6 & 9

Property	Value / Assessment	Standard / Test method
Antimicrobial behaviour	No fungal growth observed	EN ISO 846, VDI 6022
Environmental aspects	Meets the requirements for sustainable construction in combination with ArmaFlex Ultima SF990 adhesive such as LEED.	
Environmental Product Declaration (EPD)	Type III Environmental Product Declaration (EPD): Declaration number "EPD-ARM-20200218-IBB1-EN", Institut Bauen und Umwelt e.V. (IBU)	ISO 14025, EN 15804+A2
Green building assessment	Meets the sustainable construction requirements for LEED v4.1, BREEAM international, WELL v2 and DGNB.	
Additional features	SCCP, MCCP-free	
Other technical features		
Shelf life	Self-adhesive tubes, self-adhesive sheets, self-adhesive tape: 1 year	
Storage	Can be stored in dry, clean rooms at normal relative humidity (50% to 70%) and ambient temperature (0 °C – 35 °C).	

[1] For use in temperatures beyond the maximum and minimum service temperature range indicated in the technical data table, please contact our Customer Service Centre.

[2] +85 °C, for products with a self-adhesive layer.

[3] According to IMO 2010 FTP Code annex 2, clause 2.2 a fire technical test for smoke density and toxicity is not necessary.

[4] If ArmaFlex is used outdoors or in applications under UV radiation, it should be protected with a covering such as ArmaClad Arma-Chek within 3 days of installation.

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ABOUT ARMACELL

As the inventor of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal 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 more than 3,300 employees and 25 production plants in 19 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for acoustic and lightweight applications, recycled PET products, next-generation aerogel technology and passive fire protection systems.

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ArmaFlex®

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