

Armaflex Ultima[®]

THE FIRST LOW SMOKE FLEXIBLE
INSULATION FOR INCREASED FIRE
SAFETY



- Increased safety through superior fire performance and reduced smoke density
- Meets the requirements for sustainable construction in combination with Armaflex Ultima RS850 reduced solvent adhesive
- Manufactured with Armaprene, patented technology
- Reduces energy losses and minimizes CO₂ emissions

- First flexible closed-cell insulation with Euroclass B_Ls1-d0
- Excellent protection against water vapour diffusion for long-term performance
- Reliable system solution with compatible Armafix Ultima pipe supports, tapes and adhesives available



**BUREAU
VERITAS**



Armaflex Ultima

A NEW SAFETY STANDARD FOR FLEXIBLE INSULATION MATERIALS

With the fire classification $B_L-s1, d0$, Armaflex Ultima sets a new safety standard in technical insulation. The highly flexible, closed-cell insulation material has extremely low smoke density and thus makes an important contribution to the overall level of fire safety in buildings.

Innovative Armaprene technology, a completely new intrinsically flame-resistant polymer, and the use of special additives means it is no longer necessary to add any brominated flame retardants.



PEOPLE SAFETY

Every year more than 6,000 people die as a result of fires in Europe with the majority of deaths as a result of smoke inhalation.

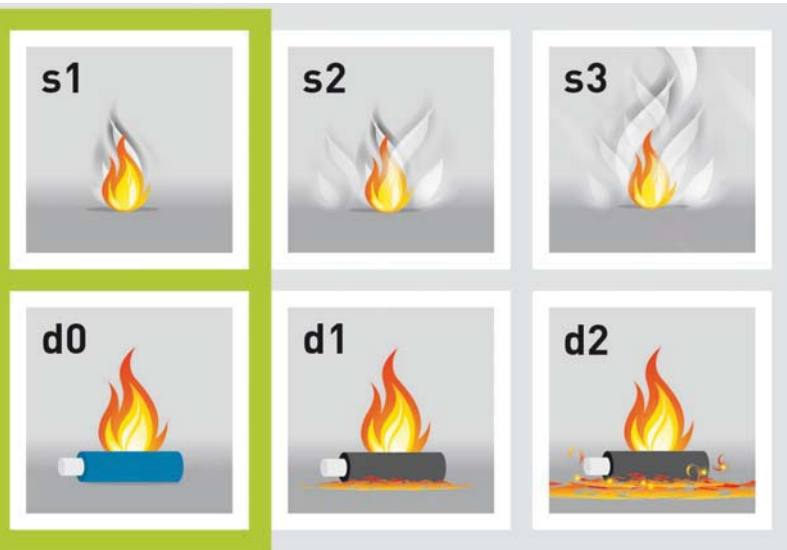
Fire safety in buildings includes protecting people and places as well as the environment from the often devastating effects of fire. It covers a range of aspects, such as taking precautions to prevent or reduce the likelihood of fire in buildings, alerting people to the presence of fire and helping those threatened to survive.

THE IMPORTANCE OF PASSIVE FIRE PROTECTION

Passive fire protection provides breaks and barriers to fire and the spread of combustible materials within buildings, between buildings and to the exterior environment. This includes, but is not limited to, walls, doors, floors, windows and installations. In buildings passive features can make an important difference in protecting people and our built environment.

With the completely new foam Armaflex Ultima, Armacell is the first manufacturer of flexible technical insulation materials to succeed in combining extremely high flammability resistance with minimal smoke development.





A NEW SAFETY STANDARD FOR FLEXIBLE INSULATION MATERIALS

A product's technical properties determine the initiation and growth rate of fire. Measurement of the technical properties and the understanding of how they relate to real hazards are therefore important for fire safety.

Building products have to be tested and classified according to EN13501-1 and the resulting application areas are defined in the national building codes. The new Euroclass fire classification takes into account not only flammability, but also the smoke density and the production of burning droplets.



THE SECURITY OF A WELL DESIGNED SYSTEM

Armaflex Ultima and other insulation materials based on Armaprene® synthetic rubber are glued using Armaflex Ultima RS850 and Armaflex Ultima 700 adhesives which have been specially developed for these products. The choice of adhesive depends on the requirement of the project.

Armacell also offers its tried and tested pipe support in Armaflex Ultima material to provide maximum reliability.



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	Elastomeric foam based rubber; Manufactured with Armaprene® Patented Technology US Patent no. 8,163,811, EU patent no. 2 261 305. Factory made flexible elastomeric foam (FEF) according to EN 14304.
Colour	blue
Material Special 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 paper/foil used to protect self-adhesive closures.
Product Range	Available in tubes, self-adhesive tubes, sheets, self-adhesive sheets, tape and pipe supports. Range: 9-25mm thickness, pipe outer diameter 10-89 mm.
Applications	Insulation / protection of pipes, air ducts, vessels (incl. elbows, fittings, flanges etc.) to prevent condensation and save energy. Armaflex Ultima is not suitable for outdoor use and may not be exposed to weather or UV-radiation exposure. Direct UV radiation is to be avoided indoors. Self-adhesive tubes should be additionally secured by applying Armaflex Ultima Tape.
Special Features	Low smoke performance
Safety and Environment	Meets the requirements for sustainable construction initiatives when specified in combination with Armaflex Ultima RS850 adhesive.
Remarks	EC Certificate of Conformity no. 0543 of Güteschutzgemeinschaft Hartschaum e.V. , Celle

Property	Value/Assessment		Test*1	Special Remarks
Temperature Range				
Temperature Range	Max. service temperature	+110 °C	EU 5315	Tested acc. to EN 14706 EN 14707 and EN 14304
	Min. service temperature ¹	-50 °C		
Thermal Conductivity				
Thermal Conductivity	ϑ_m	+/-0	°C	$\lambda =$
	λ	≤ 0.040	W/(m · K)	$[40 + 0,1 \cdot \vartheta_m + 0,0009 \cdot \vartheta_m^2]/1000$
Water vapour diffusion resistance				
Water vapour diffusion resistance	μ	\geq	7,000	D 5185 EU 5315 Tested acc. to EN 12086 EN 13469
Fire performance				
Reaction to fire ²	Tubes, Tubes self-adhesive		B _L -s1,d0	D 5187 D 5186 D 5188 EU 5315 Classified acc. to EN 13501-1 Tested acc. to EN 13823 and EN ISO 11925-2
	Sheets, sheets self-adhesive		B-s2,d0	
	Tape		B-s1,d0	
Other fire class	Ship Building		Bureau Veritas, Det Norske Veritas, Lloyds Register	D 5243 D 5244 D 5245 GB 5565 Classified acc. to MED 96/98/EC MODULE D Tested acc.to IMO Resolution BS 6853
	Rail		Approved for use on London Underground	
Practical fire behaviour	Self-extinguishing, does not drip, does not spread flames; low smoke density			
Other technical features				
Dimensions and tolerances	In accordance with EN 14304, table 1			EU 5315 Tested acc. to EN 822, EN 823, EN 13467
UV resistance	Armaflex Ultima is not suitable for outdoor use and may not be exposed to the weather or UV-radiation exposure. Metal cladding required. Direct UV radiation also to be avoided indoors.			
Storage & Shelf life	self-adhesive tubes, self-adhesive sheets, 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).
Antimicrobial behaviour	No fungal growth observed			D 5184 Tested acc. to ASTM G21

1. For temperatures below -50 °C please contact our Technical Department to request the corresponding technical information.

2. The building materials classification is valid on metal or solid, mineral surfaces.

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

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. With some refrigerants the discharge temperature may exceed +110 °C, please consult our Technical Department for further information.

Armaflex Ultima tubes



Length 2.0 m, Colour Blue

Pipe max. Outside-Ø [mm]	9,0 mm insulation thickness		13,0 mm insulation thickness	
	Code	m/carton	Code	m/carton
6	-	-	UL-13X006 ●	164
10	-	-	UL-13X010 ●	140
12	UL-09X012 ●	192	UL-13X012 ●	130
15	UL-09X015 ●	180	UL-13X015 ●	112
18	UL-09X018 ●	150	UL-13X018 ●	98
22	UL-09X022 ●	124	UL-13X022 ●	88
28	UL-09X028 ●	96	UL-13X028 ●	64
35	UL-09X035 ●	70	UL-13X035 ●	56
42	UL-09X042 ●	56	UL-13X042 ●	48
48	UL-09X048 ●	52	UL-13X048 ●	40
54	UL-09X054 ●	42	UL-13X054 ●	36
60	UL-09X060 ●	40	UL-13X060 ●	28
64	UL-09X064 ●	28	UL-13X064 ●	26
76	UL-09X076 ●	32	UL-13X076 ●	24
89	UL-09X089 ●	24	UL-13X089 ●	18

Pipe max. Outside-Ø [mm]	19,0 mm insulation thickness		25,0 mm insulation thickness	
	Code	m/carton	Code	m/carton
10	UL-19X010 ●	92	-	-
12	UL-19X012 ●	84	-	-
15	UL-19X015 ●	64	-	-
18	UL-19X018 ●	58	UL-25X018 ●	46
22	UL-19X022 ●	56	UL-25X022 ●	36
28	UL-19X028 ●	40	UL-25X028 ●	36
35	UL-19X035 ●	40	UL-25X035 ●	28
42	UL-19X042 ●	24	UL-25X042 ●	24
48	UL-19X048 ●	24	UL-25X048 ●	20
54	UL-19X054 ●	24	UL-25X054 ●	18
60	UL-19X060 ●	16	UL-25X060 ●	18
64	UL-19X064 ●	16	UL-25X064 ●	16
76	UL-19X076 ●	16	UL-25X076 ●	12
89	UL-19X089 ●	16	UL-25X089 ●	12

Length tolerance for tubes: ± 1,5 %
 Thickness tolerance 9 mm, 13 mm: ±1,5 mm
 19 mm, 25 mm: ±2,5 mm

● Not a stock item. Delivery on request.

Armaflex Ultima self-adhesive tubes (Self Seal)



Length 2.0 m, Colour Blue

Pipe max. Outside-Ø [mm]	9,0 mm insulation thickness		13,0 mm insulation thickness	
	Code	m/carton	Code	m/carton
15	UL-09X015-A ●	180	UL-13X015-A ●	112
18	UL-09X018-A ●	150	UL-13X018-A ●	98
22	UL-09X022-A ●	124	UL-13X022-A ●	88
28	UL-09X028-A ●	96	UL-13X028-A ●	64
35	UL-09X035-A ●	70	UL-13X035-A ●	56
42	UL-09X042-A ●	56	UL-13X042-A ●	48
48	UL-09X048-A ●	52	UL-13X048-A ●	40
54	UL-09X054-A ●	42	UL-13X054-A ●	36
60	UL-09X060-A ●	40	UL-13X060-A ●	28
76	UL-09X076-A ●	32	UL-13X076-A ●	24
89	UL-09X089-A ●	24	UL-13X089-A ●	18

Armaflex Ultima self-adhesive tubes (Self Seal)



Length 2.0 m, Colour Blue

Pipe max. Outside-Ø [mm]	19,0 mm insulation thickness		25,0 mm insulation thickness	
	Code	m/carton	Code	m/carton
15	UL-19X015-A ●	64	-	-
18	UL-19X018-A ●	58	UL-25X018-A ●	46
22	UL-19X022-A ●	56	UL-25X022-A ●	36
28	UL-19X028-A ●	40	UL-25X028-A ●	36
35	UL-19X035-A ●	40	UL-25X035-A ●	28
42	UL-19X042-A ●	24	UL-25X042-A ●	24
48	UL-19X048-A ●	24	UL-25X048-A ●	20
54	UL-19X054-A ●	24	UL-25X054-A ●	18
60	UL-19X060-A ●	16	UL-25X060-A ●	18
76	UL-19X076-A ●	16	UL-25X076-A ●	12
89	UL-19X089-A ●	16	UL-25X089-A ●	12

Length tolerance for tubes:	± 1,5 %
Thickness tolerance	9 mm, 13 mm: ±1,5 mm 19 mm, 25 mm: ±2,5 mm

Armaflex Ultima continuous sheets (rolls)



Width 1.0 m, Colour Blue

Code	Thickness [mm]	Roll length [m]	m ² /carton
UL-06-99/E ●	6.0	15	15
UL-09-99/E ●	9.0	10	10
UL-13-99/E ●	13.0	8	8
UL-19-99/E ●	19.0	5	5
UL-25-99/E ●	25.0	4	4

Length tolerance for sheets	± 5 % - 1.5%
Thickness tolerance for sheets	6 mm: ±1,0 mm 9 mm - 19 mm: ±1,5 mm 25 mm: ±2,0 mm

● Not a stock item. Delivery on request.

Armaflex Ultima continuous sheets self-adhesive (rolls)



Width 1.0 m, Colour Blue

Code	Thickness [mm]	Roll length [m]	m ² /carton
UL-06-99/EA ●	6.0	15	15
UL-09-99/EA ●	9.0	10	10
UL-13-99/EA ●	13.0	8	8
UL-19-99/EA ●	19.0	5	5
UL-25-99/EA ●	25.0	4	4

Length tolerance for sheets	± 5 % - 1.5%
Thickness tolerance for sheets	6 mm: ±1,0 mm 9 mm - 19 mm: ±1,5 mm 25 mm: ±2,0 mm

● Not a stock item. Delivery on request.

Armaflex Ultima self-adhesive tapes



Colour Blue

Code	Width [mm]	Length [m]	Thickness [mm]	Rolls/carton
UL-TAPE ●	50.0	15	3	12

● Not a stock item. Delivery on request.

Armaflex Ultima adhesive



Code	Description	pieces/carton	
AHU-700/1,0 •	Armaflex Ultima Adhesive 700, blue one component adhesive, 1 litre cans	12	
AHU-RS850/0,7 •	Armaflex Ultima Adhesive RS850, reduced solvent, non-drip blue gel form adhesive, 0.75 litre cans	6	

• Not a stock item. Delivery on request.