AF/Armaflex®

THE FIRST CHOICE FOR PROFESSIONAL INSTALLATIONS



- Increases equipment life cycle
- High flexibility and ease of installation
- Reliable condensation control and prevention of corrosion under insulation (CUI)
- 10-year System Warranty possible*

EPD
Environmental Product Declaration

FM
APPROVED

RAL
GÜTEZEICHEN
Dämmstoffe aus Schaumkunststoffen
FEF / PEF

BUREAU VERITAS
1828
BUREAU VERITAS



*10-YEAR SYSTEM WARRANTY

The Armaflex System Warranty is a partner scheme in which trained and certified insulation companies receive a warranty of up to ten years instead of the two-year warranty period.

This concept, which is unique in the market, gives the certified companies a direct competitive advantage when submitting tenders. What's more, specifiers, trade partners and clients benefit from the seal of quality, too.

Fore more information, please visit: https://arma.link/systemwarranty



TRUSTED SINCE 50 YEARS

With a combination of internal and externally monitored technical values we offer consistently high-quality products. This is the result of 50 years expierence and continual research and further development of the product properties which determine the quality. Since AF/Armaflex is distributed throughout Europe, it does not just comply with national standards and controls but we are also thinking ahead, preparing for the future European product and testing standards.
The combination of high μ-value, low λ-value and the engineered wall thickness of AF/Armaflex not only ensures reliable protection against condensation, but also meets the most stringent energy-saving regulations, contributing to an optimal energy efficiency of the installation.



COMPLETE SYSTEM

Armacell offers a complete carefully considered and coordinated system solution for any professional insulation challenge: AF/Armaflex standard, self-adhesive and endless tubes and sheets, tape and accessories. Armafix AF pipe supports to avoid thermal bridging, Armaflex Protect fire barrier as well as AF/Armaflex with Arma-Chek flexible covering systems.
The wide range of specially developed accessories such as the new generation of adhesives and the Armaflex Toolbox for applying Armaflex insulation materials make installation even easier.



At www.armacell.com you will find in the Refrigeration & Air-Conditioning section under AF/Armaflex ready-made **specification texts** to download and use.

ArmWin is the technical calculation program of Armacell. This allows you to determine i.a. the correct insulation thickness to prevent condensation and to minimize energy losses.

Application trainings: We train insulation contractor and offer valuable assistance for your daily work. A successful participation in a training, we certify with one in the Industry recognized certificate.

All services around our products you will find at **www.armacell.com**

AF/Armaflex

PRE-FORMED PARTS

The AF/Armaflex elbows and t-pieces offer you additional installation time savings. The pre-formed parts match the Armaflex tubes perfectly and complete the system.



TRIPLE SECURITY

AF/Armaflex is the professional flexible insulation for reliable continuous condensation control. The optimal combination of a very low thermal conductivity and extremely high resistance to water vapour transmission prevents long-term energy losses and water vapour ingress and reduces the risk of corrosion under insulation.



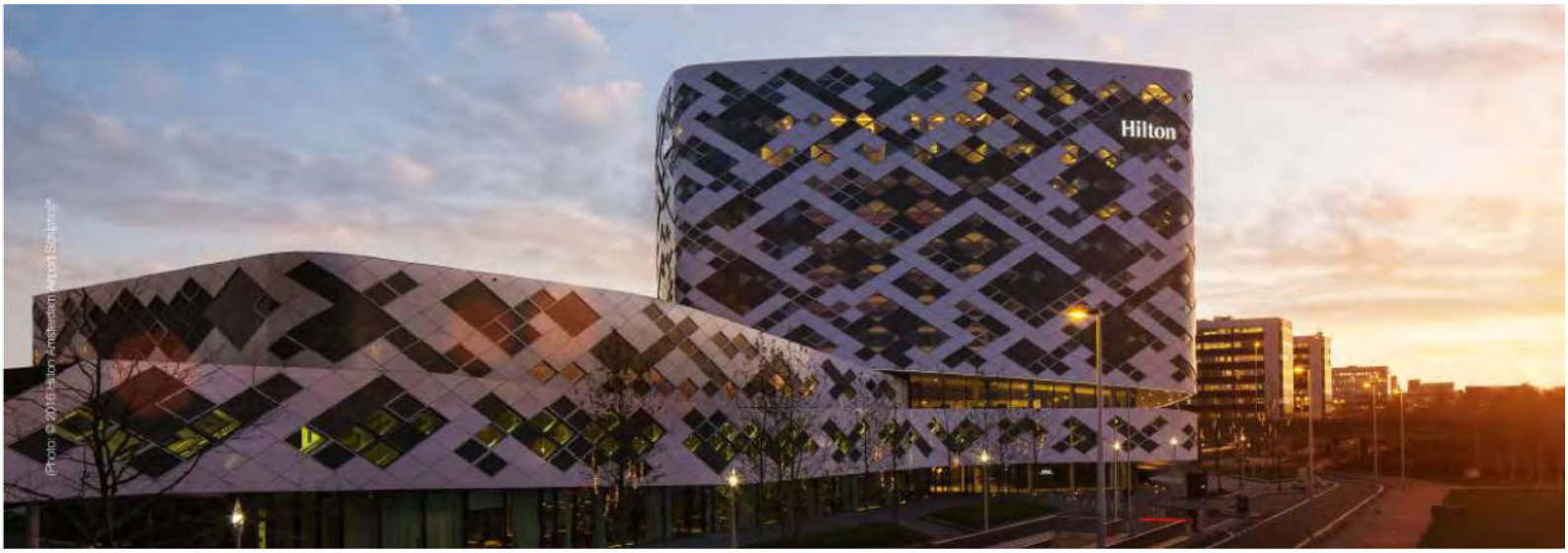
AF/ARMAFLEX ACTIVE MICROBAN® ANTIMICROBIAL PROTECTION

An EPA (Environmental Protection Agency, US) survey indicates that conditioned areas are frequently breeding havens for microbes and contamination. Indoor air can be up to 10 times more polluted than outdoor air. Microbial pollution is a key element of indoor air pollution. Microbes, which can be found in and on HVAC systems, include stain and odor causing bacteria, mould and mildew. These microbes subsequently emit spores, cells, fragments and volatile organic compounds (VOC) into indoor air, thus possibly contributing to the well-known sick building syndrome. Mould and mildew additionally initiate the biological or chemical degradation of materials.

AF/Armaflex is the first flexible insulation material equipped with MICROBAN® technology. When microbes come in contact with the insulation surface, MICROBAN® protection penetrates the cell wall of the microorganism, disabling its ability to function, grow and reproduce. Because the protection is built in during the manufacturing process, it will not wash off or wear away. This gives AF/Armaflex products an added level of protection against mould and mildew and is therefore the ideal long-term solution for insulating ventilation or air-conditioning equipment in public buildings such as schools, hospitals, elderly homes, offices and airports, as well as the mechanical systems in the pharmaceutical or food industries.







AF/Armaflex in the Hilton Schiphol Hotel

If the hotel industry awarded stars for the insulation concept, the new Hilton Amsterdam Airport Schiphol Hotel would certainly have deserved a fifth star. The impressive building complex relies on the tried-and-tested combination of AF/Armaflex and Armafix AF and the insulation work was carried out under the Armaflex System Warranty.





CHALLENGE

When planning the hotel great importance was attached to the sustainability of the building. Energy consumption is 10 % lower than the Energy Performance Coefficient (EPC) legally required in the Netherlands. Consultant engineers Deerns achieved this feat by combining a wide range of energy-saving measures.

SOLUTION

All in all, Unica Installatietechniek installed 31 km of pipework in the building complex, around half of which is dedicated to cooling the building. These pipes have feed temperatures of 10 °C and return temperatures of 18 °C. To protect the chilled-water pipes against condensation and energy losses, consultant engineers Deerns specified AF/Armaflex insulation material.
On the pipes and on other components in the plant rooms employees of the insulation contractor Riweltie BV installed tubes and sheets in insulation thicknesses of 16 and 19 mm. The outdoor air intake ducts were insulated with some 4,000 m2 of AF/Armaflex sheet material in an insulation thickness of 25 mm.

Hans de Klein
Technical Commercial Director at Riweltie BV insulation contractors

"We realized this project with the Armaflex System Warranty. When we use AF/Armaflex in combination with the Armafix AF pipe support we now receive a project-related warranty of 10 years. A great idea from Armacell."

Technical Data - AF/Armaflex

Brief description	Highly-flexible, closed-cell insulation material with high water vapour diffusion resistance, low thermal conductivity and built-in Microban® antimicrobial protection.
Material type	Elastomeric foam based on synthetic rubber. Factory made flexible elastomeric foam (FEF) according to EN 14304.
Colour	black
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 protection paper/foil used to protect self-adhesive closures.
Applications	Insulation / protection for pipes, air ducts, vessels (incl. elbows, fittings, flanges etc.) of air-conditioning / refrigeration and process equipment to prevent condensation and save energy. Structure-borne noise reduction in service-water and waste-water installations.
Special Features	Increasing insulation wall thicknesses for tubes ensures that the surface temperature is maintained as the pipe diameter is increased.
Safety and Environment	Type III Environmental Product Declaration (EPD): Declaration number "EPD-ARM-20150060-IBB1-DE", Institut Bauen und Umwelt e.V. (IBU)
Remarks	Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP"

Property	Value/Assessment				Test*1	Special Remark
Temperature Range						
Temperature Range	max. service temperature		+ 110 °C	(+ 85 °C if sheet or tape is glued to the object with its whole surface.)	EU 5661	Tested acc. to EN 14706, EN 14707 and EN 14304
	min. service temperature[1]		-50 °C			
Thermal Conductivity						
Thermal Conductivity	ϑ_m	+/-0 °C	.	λ=	EU 5661	Declared acc. to EN ISO 13787 Tested acc. to EN 12667 EN ISO 8497
	Tubes (AF-1 to AF-4)	λ ≤ 0,033	W/(m · K)	$[33 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot \vartheta_m^2]/1000$		
	Tubes (AF-5 to AF-6)	λ ≤ 0,036	W/(m · K)	$[36 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot \vartheta_m^2]/1000$		
	Sheets, strips, tape (AF-03MM to AF-32MM)	λ ≤ 0,033	W/(m · K)	$[33 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot \vartheta_m^2]/1000$		
	Sheets (AF-50MM	λ ≤ 0,036	W/(m · K)	$[36 + 0{,}1 \cdot \vartheta_m + 0{,}0008 \cdot \vartheta_m^2]/1000$		
Water vapour diffusion resistance						
Water vapour diffusion resistance	Sheets (AF-03MM to AF-32MM) and Tubes (AF-1 to AF-4)	μ	≥	10.000	EU 5661	Tested acc. to EN 12086 and EN 13469
	Sheets (AF-50MM) and Tubes (AF-5 to AF-6)	μ	≥	7.000		
Fire performance						
Reaction to fire	tubes		B_L-s3, d0		EU 5661	Classified acc. to EN 13501-1 Tested acc. to EN 13823 EN ISO 11925-2
	sheets		B-s3,d0			
	tape		B-s3,d0			
Other Fire Class	UL - approved				UL: EU 5837 FM: EU 5607 Ship Building: D2406, D 5555, EU 5474	UL: Tested according to UL94, IEC 60695 and Can/CSA-C.22.2 No0.17., UL 746C FM: Tested according to UBC26-3, Class No.4924 Ship Building: Classified acc. to MED 96/98/EC MODULE D
	FM - approved					
	Ship Buildling		low-flammable - 2010 FTP-Code			
Practical Fire Behaviour	Self-extinguishing, does not drip, does not spread flames					
Fire resistance of structural element			EI 30 - EI 90		EU 5661 EU 5584	Classified acc. to EN 13501-2 Tested acc. to EN 1366-3
Acoustic Performance						
Weighted sound absorption coefficient α_w			≤ 0,45		D 4763	Tested acc. to EN ISO 354
Other technical features						

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Technical Data - AF/Armaflex

Dimensions and tolerances	In accordance with EN 14304, table 1	EU 5661	Tested acc. to EN 822, EN 823, EN 13467
UV resistance[2]	Protection against UV-radiation is necessary.	TB 142	
Storage & Shelf life	Self-adhesive tapes, self-adhesive sheets, self-adhesive tubes, stripes: 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	In-built Microban® active antimicrobial protection: No fungal growth observed	D 5931	Tested acc. to EN ISO 846 (VDI 6022)
AGI Designation Code	Tubes (AF-1 to AF-4): 36.12.01.07.01 Tubes (AF-5 to AF-6): 36.12.02.07.01 Sheets ((AF-03MM to AF-32MM): 36.07.01.06.01 Sheets (AF-50MM): 36.07.02.06.01		

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.

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

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 us 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 Center before insulating stainless steels. For some refrigerants the discharge temperature may exceed +110 °C, please consult our Customer Service Center for further information.

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