



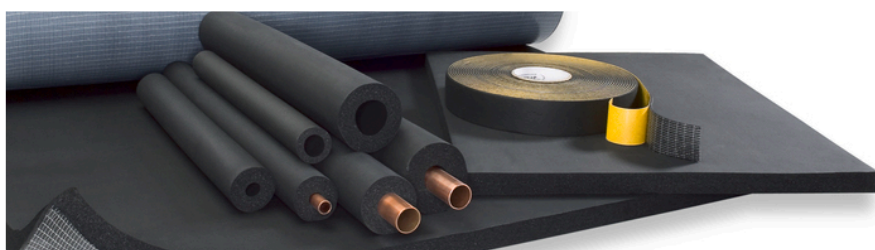
INSTALL IT. TRUST IT.

NH/ArmaFlex

The protective halogen-free insulation to reduce corrosive effects and smoke toxicity in case of fire

- // Halogen-free
- // Reduces toxicity and corrosive effects on people and equipment
- // Fibre dust free material provides low thermal conductivity
- // IMO approved

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 **armacell**[®]
ArmaFlex[®]

INSTALL IT. TRUST IT.

NH/ArmaFlex

IN THE NEW DATA CENTRE OF COMARCH AG - DRESDEN, GERMANY

One of the most secure data centres in Central Germany and the heart of the German headquarters of Polish IT company Comarch was constructed in just under twelve months with an investment of 12 million euros.



// Challenge

A consistently low temperature must be guaranteed in order to protect the sensitive electronics in the data centre of Comarch AG in Dresden against overheating and failure. To air-condition the computer centre two water chillers with a cooling capacity of 550 kW each were installed. These cool four cold water storage units with a total water volume of 24,000 litres. The doubled redundant system was constructed with pipes up to DN 300. The cooling requirement in data centres is enormous: if the worst comes to the worst, it can account for more than a third of energy consumption.

// Solution

The main parameter for increasing energy efficiency in refrigeration applications is the insulation. Because optimal insulation can significantly reduce energy losses.

Therefore, NH/ArmaFlex was used to insulate the refrigeration plant and cooling-water lines as well as the ventilation plant and air ducts in Comarch's new building. The closed-cell insulation material has low thermal conductivity and high resistance to watervapour transmission. It provides plant components with long-term protection against condensation and energy losses. The halogen-free NH/ArmaFlex was installed on the pipes in the data centre. In the event of a fire the product minimizes the risk of consequential damage which can cost many times more than the original fire damage. In a fire NH/ArmaFlex does not release corrosive gases which could form aggressive acids in combination with the water used for fighting the fire. Parts of the insulated systems were then clad with Okabell sheets.

Jörg Uhlig, Owner of Uhlig-Isolierung (Lübben):

„The servers in the new data centre emit a lot of heat and must be cooled continuously. Correctly calculated insulation ensures that the required line temperature is maintained as long as possible and the refrigeration machine does not need to start up so often to lower it. With NH/ArmaFlex it's possible to reduce the energy costs. What's more the highly flexible material is very easy to install.“



TECHNICAL DATA - NH/ARMAFLEX

Brief description	NH/ArmaFlex is a halogen free, flexible closed-cell insulation material with certification for use in marine environments.
Material type	Flexible elastomeric foam based on synthetic rubber (NBR). 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	Black grey
Special features	Halogen-free (chloride, bromide) acc. to DIN / VDE 0472, part 815.
Applications	Insulation/protection for pipes, air ducts, vessels of air-conditioning/refrigeration, ventilation to prevent condensation and save energy.
Installation	Certified and compatible adhesive for a long-term performing system is ArmaFlex 520.

Property	Value / Assessment	Standard / Test method
Temperature range		
Service temperature	Min. °C ¹	Max. °C
	-50	110
	Remarks	+85 °C if sheet or tape is glued to the object with its whole surface
Thermal conductivity		
Declared thermal conductivity	θm	+/- 0 °C
	λd ≤ [W/(m·K)]	0.040
	Formula	[40 + 0,1 · θm + 0,0009 · θm ²]/1000
Fire Performance and Approvals		
Surface flammability	low-flammable - 2010 FTP-Code (MED 96/98/EC, Modul D)	IMO 2010 FTP Code, Part 5 ²
UL standards		
UL 94 HF-1	Passed (tubes ≥ 3.0 mm) Passed (sheets ≥ 3.0 mm)	UL 94, IEC 60695-11-10, UL 746B
Fire performance		
Practical fire behaviour	Self-extinguishing, does not drip, does not spread flames	
Physical attributes		
Dimensions and tolerances	In accordance with EN 14304, table 1	EN 822, EN 823, EN 13467
Weather and UV resistance		
UV resistance ³	Protection against UV radiation is necessary (see Technical Bulletin no. 142)	
Health and environment		
Additional features	SCCP, MCCP, LCCP-free	
Other technical features		
Shelf life	Self-adhesive tapes, self-adhesive sheets: 1 year	
Storage	Can be stored in dry, clean rooms at normal relative humidity (50% to 70%) and ambient temp. [0°C–35 °C).	

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

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

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

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- // Full truck loads and full pallets (not mixed – 1 SKU per pallet)
- // List prices in this document are based on Ex Works
- // Container loading with standard goods
- // Customs clearance (including documentation) for standard deliveries outside EU
- // Dangerous goods process for road freight

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- Strapping
- Doubled stretching
- Reinforced cardboard with extra layer
- Additional warning tape

LABELLING

- Extra label for transport instructions

EXTRA DELIVERY SERVICES

- Just in time delivery
- Delivery with lifting platform for partial or complete load
- Express and direct shipments
- Booking a delivery time slot via your EDP system
- Forklift truck for unloading at construction site
- Air and sea freight deliveries
- Dangerous goods shipment process for air and sea freight



To mitigate cost increases and reduce waste generation, we also propose a pallet return service* by which pallets can be handed at Armacell collection points.

* Please contact your local Customer Service Centre to see which of these services apply to your country.

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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 more than 3200 employees and 27 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 high-tech and lightweight applications and next generation aerogel blanket technology.



For more information, please visit:
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