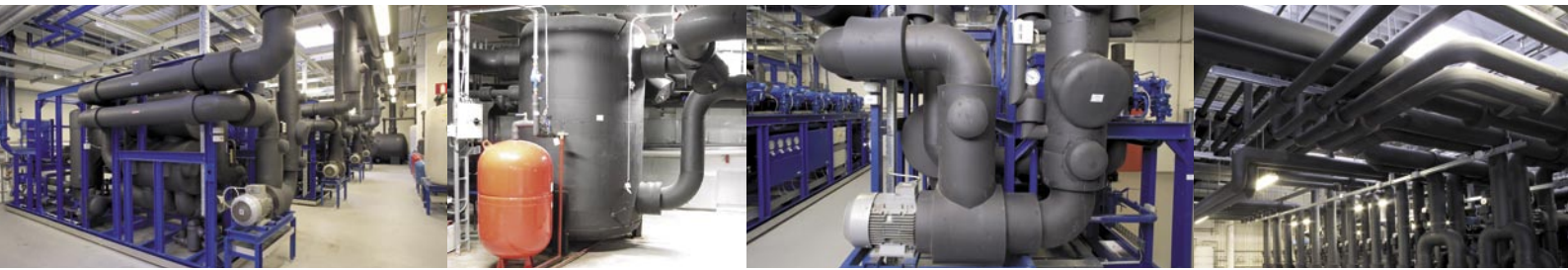
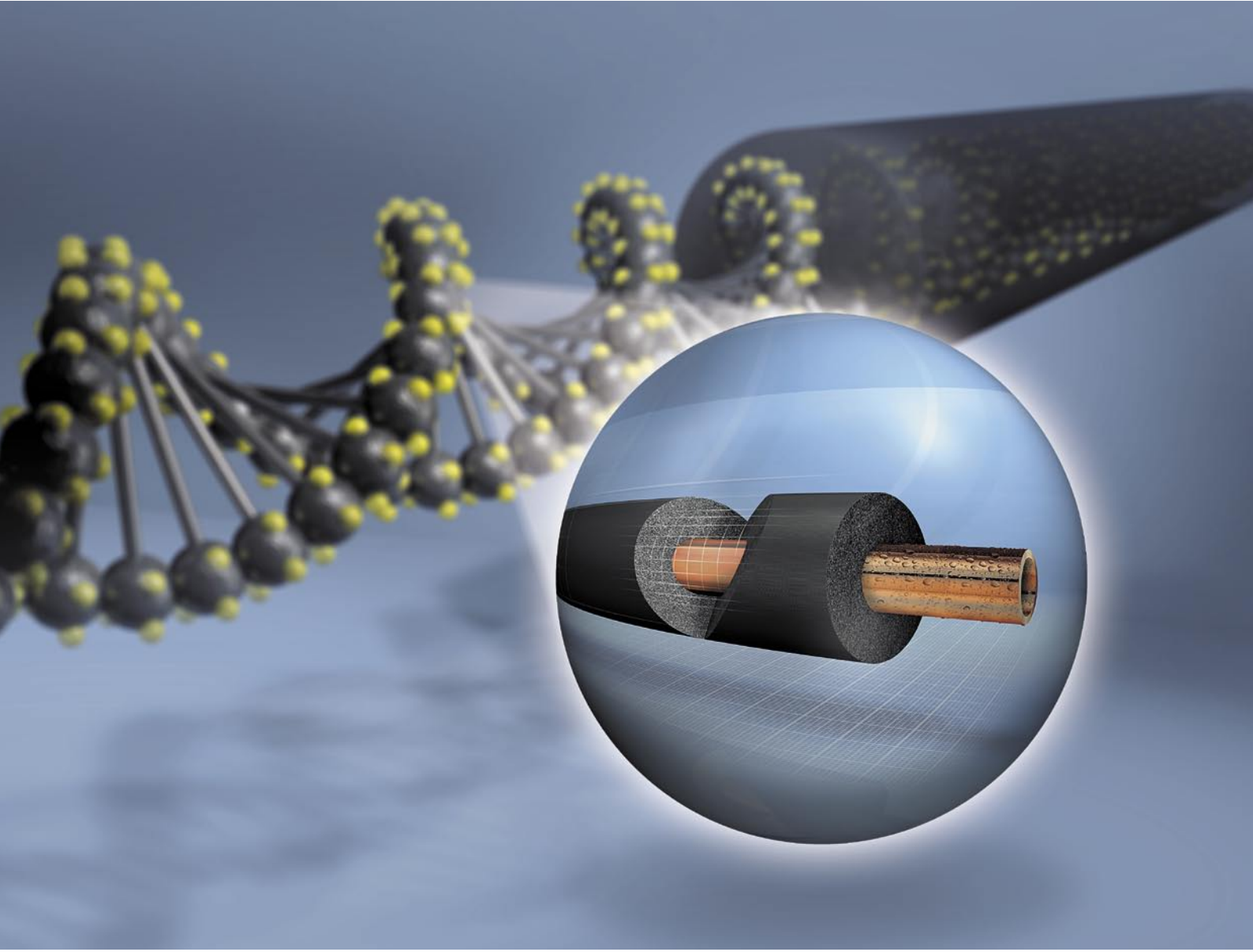


Armaflex[®]

Insulation Engineered For **COLD SYSTEMS**



Why Insulate Cold Systems?

Insulation is typically seen as a means to prevent heat loss or gain through the building envelope. Yet energy efficient design must also address all interior piping and air handling systems - with the right insulation materials in the right thicknesses. In particular an insulation system must be capable of preventing condensation, moisture intrusion and long term degradation.

Moisture from condensation is a problem in any cold system. It is often assumed that all insulation materials are equally suitable for any application. This generalisation is wrong for cold systems and can lead to system failure, call-backs, energy waste, even mould and building closure. Not every insulation is engineered for cold applications and the perceived convenience of specifying a single insulation material for an entire project can have serious consequences.



The consequences by choosing the wrong insulation for cold systems can be serious and costly.



No corrosion even after 25 years. Armaflex installation at Rabo Bank, Amsterdam.

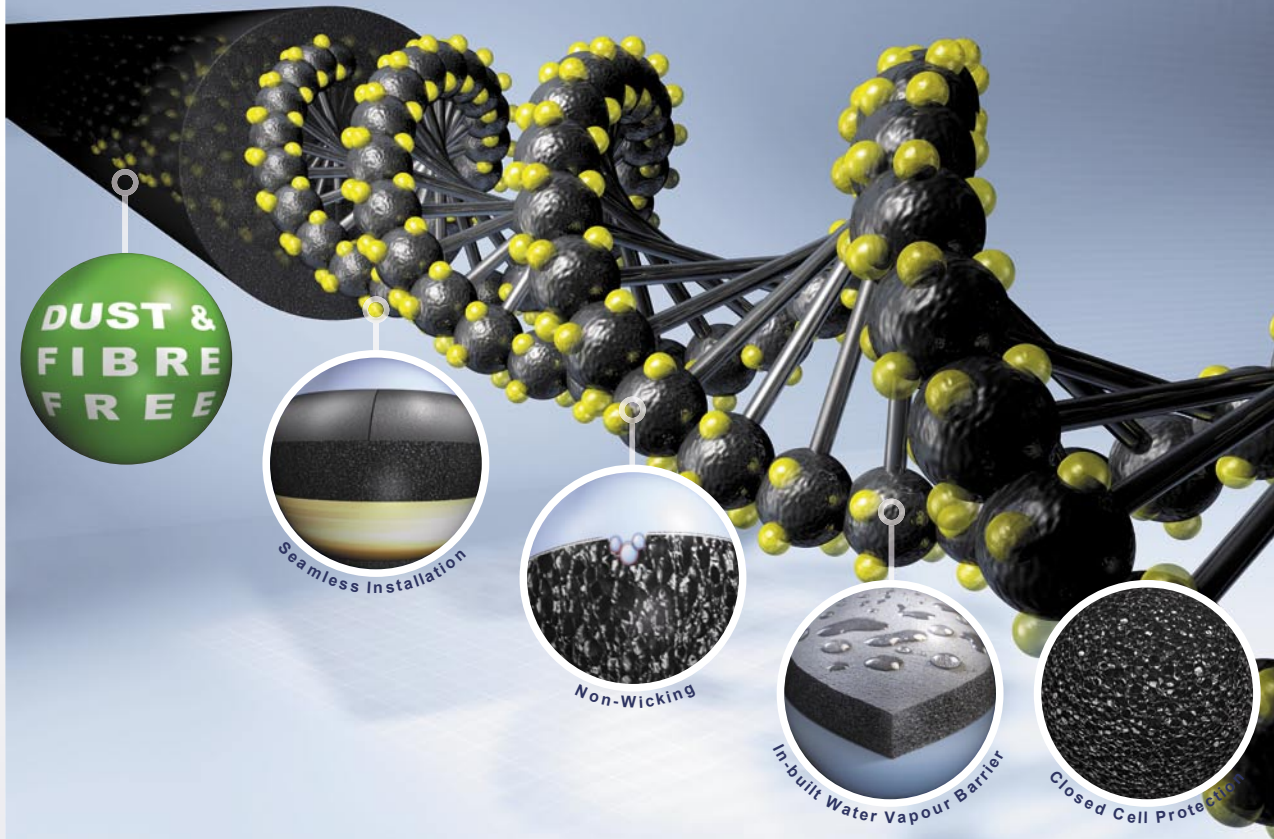


Insulation Requirements for Insulating Cold Systems

Insulation used on cold lines must effectively prevent condensation. Typically in order to achieve this an insulation material should, in addition to excellent technical values, exhibit the following:

- ❶ **An effective water vapour barrier**
Without an effective and robust water vapour barrier condensation can directly occur on the cold surface of the pipe.
- ❷ **A closed cell structure not prone to “wicking”**
Open cell materials used on hot pipes are protected by an external water vapour barrier. Once moisture is able to penetrate this it creeps throughout the whole material through “wicking” - accelerating processes such as corrosion and mould growth.
- ❸ **No obvious potential for thermal bridging**
When valves, pipe hangers and flanges are left uninsulated condensation will occur at these “thermal bridges”. Flexible materials which insulate all of the pipework can eliminate condensation at these points.
- ❹ **Low environment impact values (ODP and GWP)**
To reduce carbon emissions only insulation with low ODP and GWP values is normally acceptable.
- ❺ **Long term stability of thermal values**
Insulation thermal properties typically vary over time. It is usually essential that the material prevents condensation over the lifetime of the installation and this requires highly stable thermal values.

The Armaflex characteristics engineered for CONDENSATION CONTROL



Combining an excellent thermal conductivity with closed cell structure, Armaflex features an in built water vapour barrier and a high resistance to water ingress. Unlike other insulation materials Armaflex requires no external vapour barrier and will maintain its thermal properties over a long period of time.

Armaflex is the choice for cold systems due to its inherent material properties:

• Closed Cell Protection

Closed cell insulation materials possess a built-in resistance to the passage of water vapour. As a result closed cell materials do not rely on an easily pierced external water vapour barrier to prevent condensation on refrigeration and air conditioning systems.

• In-built Water Vapour Barrier

Closed cell Armaflex material has such a high built in resistance to water vapour ingress that the insulation effectively acts as if it is itself the water vapour barrier. No easily compromised external foil barrier is required.

• Non-Wicking

Since the insulation itself acts as a vapour barrier the “wicking” effect is not possible.

This means that a small puncture in the insulation surface results only in localised damage and not system wide failure reducing the risk of; condensation, mould growth and under insulation corrosion.

• Seamless Installation

Armaflex Adhesive is a full contact adhesive which fully fuses the Armaflex insulation together. This means that adhered seams and butt joints do not represent the thermal bridges or water vapour bridges they would otherwise be.

• Dust & Fibre free

Dusty and fibrous materials are both difficult to work with and create an additional workplace hazard often aggravating respiratory conditions amongst those working with and around them. As a nitrile rubber material, Armaflex is entirely dust and fibre free, making it suitable for use in schools, offices and hospitals.

» Armaflex Solutions for Cold Systems

CLASS O ARMAFLEX

Closed cell, elastomeric, nitrile rubber insulation material with a Class O fire rating and excellent thermal properties. Available in tubes, pre-slit tubes, sheets, self-adhesive sheets and tapes.

CLASS O ARMAFLEX 15M COILS

Continuous and coils of Class O Armaflex tube ideal for new pipework.

CLASS O ARMAFLEX SELFSEAL

Pre-slit Class O Armaflex tubes with a pair of self adhesive strips down the longitudinal seam. Specifically designed to reduce installation time on existing pipework.

ARMAFLEX AC COILS

Long lengths of continuous Armaflex coils for air conditioning and domestic heating pipes. Achieves a Class O fire rating. Supplied in easy to carry boxes.

HT/ARMAFLEX

Naturally UV resistant closed cell EPDM rubber based Armaflex insulation material capable of operating at line temperatures up to 150°C.

NH/ARMAFLEX

Halogen free, closed cell nitrile rubber based Armaflex insulation material with a low smoke toxicity rating. Achieves a number of maritime fire performance certificates.

ARMAFLEX TUFFCOAT

Class O Armaflex tubes with a tough white covering pre-applied. Covering provides protection against UV exposure, impact damage and weathering.

ARMAFLEX SPLIT / DUOSPLIT

Copper pipes pre-insulated with a naturally UV resistant closed cell EPDM rubber based Armaflex insulation. Insulation comes with a tough white covering pre-applied. Designed for use with split air conditioning systems.

ARMAFIX PIPE SUPPORT

Armaflex sections with load bearing PUR/PIR inserts and an aluminium outer cladding to prevent excessive material compression.

ARMALOAD PIPE SUPPORT & SECTIONS

High density sections of Armaflex designed to resist material compression.

ARMAFLEX ACCESSORIES

Armaflex Adhesive 520, for adhering nitrile rubber based Armaflex materials and Armaflex Adhesive 625 for adhering EPDM based Armaflex materials.

Armafinish FR paint, for visual impact and to prevent damage from UV exposure when Armaflex is used outside.

