

Saving time and money with pre-covered insulation systems

Quick-to-install 2-in-1 solution from Armacell; protection against corrosion under insulation

Münster, 12 February 2014. – Flexible covering systems are gaining ground and have established themselves as an alternative to metal jackets. They not only look attractive and provide robust protection against weathering and mechanical impact, but also allow considerable time- and cost-savings during the installation. Especially using factory-covered elastomeric insulation materials instead of profiled metal sheets can shorten fabrication and installation times significantly. Furthermore, flexible covering systems provide good protection against corrosion under insulation.

Coverings protect insulation against mechanical impact

Insulation on industrial plant has to meet high demands. To protect the insulation materials against mechanical impact, moisture, dirt, oil or production chemicals, they are usually covered. On outdoor installations coverings also protect the insulation against UV-radiation, weathering and the increased risk of corrosion. Traditionally, sheet metal and, where requirements are not so high, coarse-grain aluminium foils or rigid plastics, such as PVC, are used. Alternative solutions made of flexible, woven fibres or rubber have also been on the market for some years now. These lightweight products are rot-resistant and offer high mechanical stability whilst still retaining a certain degree of flexibility.

Quick-to-install 2-in-1 solutions

Some of these systems are also provided as 2-in-1 products, i.e. as factory-covered elastomeric insulation materials (such as the Arma-Chek range made by Armacell). Using these products saves a lot of time, and therefore money. Unlike traditional insulation materials and coverings, Arma-Chek Silver and Arma-Chek D can be installed in one work step. An additional benefit of the products is that they can be installed easily, directly on site without the need for special tools. Arma-Chek Silver is also provided as pre-fabricated elbows and T-pieces. Making these complex shaped pieces is particularly time-consuming. Furthermore, when the much lighter flexible coverings are used, it is not necessary to provide supporting and load-bearing structures, which are often needed for metal jackets. Because Arma-Chek Silver's coefficient of heat transfer is higher than that of metals and no Parker screws penetrate the insulation during installation, these products generally allow the use of thinner insulation thicknesses than metal jackets.

Protection against corrosion under the insulation

A key benefit of flexible covering systems is the direct connection to the adjoining insulation, which rules out any risk of water penetrating at these points. If the covering system is not absolutely tight – and with metal jackets it is never completely possible to ensure that it is – water can penetrate the insulation. Moisture not only leads to a drastic reduction in the thermal properties of the insulation material, significant corrosion damage can occur underneath the insulation, which can result in extensive renovation work and considerable costs. As the term ‘corrosion under insulation’ (CUI) aptly describes, the processes take place underneath the insulation and its covering and often remain undetected for a long time. An application comparison has shown that pipework insulated with Arma-Chek Silver is much better protected against corrosion than metal-clad installations. Flexible coverings also have hygiene benefits: where there are no seams or crimps, no germs can penetrate and settle in the insulation. These easy-to-clean systems are therefore ideal for use in the food industry.

Reliable insulation with aesthetic covering

Arma-Chek Silver is the perfect solution wherever not only robust protection against weathering and mechanical stress is required, but also an attractive appearance. The covering material with a shiny, metal-look surface effectively protects the insulation material against mechanical impact and at the same time is so flexible that it recovers from blows, usually leaving no dents in the surface. The surface is very easy to clean, the system is simple to install and maintain. The UV-resistance of the multi-layered covering material is continuously subjected to weathering tests in accordance with DIN EN ISO 4892 (Weather-Ometer). The material can be cut easily and has high tear and impact resistance. Arma-Chek Silver is produced on an AF/Armaflex substrate. The elastomeric insulation material has a closed-microcell structure, very low thermal conductivity and high resistance to water vapour transmission. These properties ensure that installations insulated with Arma-Chek Silver have long-term protection against condensation and energy losses.

Tip: The Arma-Chek Silver Video at www.armacell.com/ArmaChekSilver also shows that flexible coverings can be installed much faster than traditional metal claddings.

Armacell is a manufacturer of engineered foams and the world leader in the market for flexible technical insulation materials. In the financial year 2012, the company generated an annual turnover of around 475 million euros. The group of companies employs approximately 2,420 people and has 19 factories in 13 countries. It is headquartered in Münster, Germany. Apart from ARMAFLEX, the leading brand in the field of flexible technical insulation, the company also produces thermoplastic insulation materials, covering systems, fire protection and noise control products, special foams for a multitude of industrial applications and foam cores, which are used as composite materials. Further information on the company can be found at www.armacell.com.

Captions:

- (1) The pre-covered insulation system Arma-Chek Silver can be installed much faster than a metal jacket (Photo: Armacell)
- (2) Arma-Chek Silver: The cost-effective 2-in-1 system solution made by Armacell (Photo: Armacell)
- (3) Arma-Chek Silver or metal? Arma-Chek Silver looks every bit as good as stainless steel claddings (Photo: Armacell)