



Armaflex Ultima in Scandinavia's first clinic for proton therapy

New safety standard in technical insulation

Armacell has set a new safety standard in technical insulation: While the majority of flexible elastomeric insulation materials achieve at best B-s3, d0, Armacell has been able to develop a new foam with very high flame resistance and minimal smoke development. The highly flexible Armaflex Ultima achieves BL-s1, d0 in the European fire test. The insulation material exhibits 10 times less smoke development and thus makes an important contribution to the safety of people in buildings. Since its launch, Armaflex Ultima has been used with great success in numerous projects: in industrial facilities, hospitals, schools, universities, airports, underground train stations and many other construction projects. One example is presented here.

Scandinavia's first clinic for proton therapy

Over the past few years, a state-of-the-art clinic for proton therapy has been built in Uppsala, a city around 70 km to the north of the Swedish capital Stockholm. Proton therapy makes it possible to treat cancer more effectively and with fewer side effects than are associated with conventional methods. The clinic, which is run jointly by the seven Swedish counties, is designed to treat 1,000 patients initially. In the long term, there are plans to admit some 2,500 patients annually. The facility was built by the Swedish property company Akademiska Hus in collaboration with the construction company NCC and is divided into two areas – the treatment unit and the patient hotel. The proton therapy unit is located on the ground floor in a self-contained part of the building with walls up to 3.7

metres thick. This area is designed entirely according to the special requirements of proton therapy.

High requirements for smoke development of the building products used

For the insulation of the cooling-water pipes and air ducts of the air-conditioning equipment Incoord AB (Danderyd), one of Sweden's leading consultant engineering companies in energy and climate technology, specified the new Armaflex Ultima made by Armacell. Legislators in many European countries have now recognized that smoke poses a much greater hazard potential than the fire itself and tightened the requirements regarding the smoke development of construction products in their building regulations. In Sweden, only technical insulation materials that achieve at least fire class BL-s1, d0 may be used in so-called Br1 buildings – these are buildings requiring special fire protection such as hotels or hospitals. Jan Andersson, Project Manager at Incoord AB (Danderyd), says: 'We specified Armaflex Ultima for this project because it is the only material that provides the cooling- water pipes with reliable protection against condensation and achieves the required fire class. In addition, Armaflex Ultima is listed as non-hazardous by Byggarubedömningen (BVB), the Swedish institute that assesses the sustainability of building materials - an important selection criterion for this demanding project.'

The new Armaflex Ultima system provides installations with long-term condensation control

To protect the cooling-water pipes and air ducts in the Skandion Clinic against condensation and energy losses, insulation contractor Knivsta Isolering AB (Knivsta) installed the new Armaflex Ultima. Apart from tubes and sheets in insulation thicknesses of 13 and 19 mm, they also used the Armaflex Ultima pipe support. The matching pipe support for Armaflex Ultima guarantees reliable condensation control in the critical area of the pipe bracket. To ensure that Armacell's new insulation product is installed securely, the company provides adhesives which were specially developed for Armaprene® materials such as Armaflex Ultima. In the Skandion Clinic the insulators applied the Armaflex Ultima 700 adhesive. The employees of Knivsta Isolering AB installed approximately 2,500 m of Armaflex Ultima tubes and 1,000 m² of Armaflex Ultima sheet material. The materials were supplied by Ahlsell AB, Stockholm.

Tighter requirements in many European countries

With the introduction of the European product standards and corresponding CE marking for technical insulation materials, European fire classes replaced the previous national fire classifications. When adopting the European fire classification system, many countries tightened the requirements concerning the smoke development of building products. With Armaflex Ultima Armacell is the only manufacturer of flexible technical insulation materials to provide a closed-cell product with fire classification BL -s1, d0 and B-s2, d0 to fulfil these requirements. Compared to a standard elastomeric product, Armaflex Ultima exhibits 10 times less smoke development and thus makes an important contribution to the safety of people in buildings.

The product was developed on the basis of the innovative Armaprene® technology, which is patented both in the USA (US patent no. 8,163,811) and in Europe (European patent no. 2 261 305).

Tip: The superior fire behaviour of Armaflex Ultima is also demonstrated in a video, which can be found at www.armacell.de/ArmaflexUltima.

Facts and Figures

Project:	Skandion Clinic, first clinic for proton therapy in Scandinavia
Operator:	Joint project of the seven Swedish counties with university hospitals
Client:	Akademiska Hus in collaboration with the construction company NCC
Consultant engineers:	Incoord AB (Stockholm, Sweden)
Insulation contractor:	Knivsta Isolering AB (Knivsta, Sweden)
Insulation wholesaler:	Ahlsell AB (Stockholm, Sweden)
Armacell Products:	2 500 m Armaflex Ultima tubes, 1 000 m ² Armaflex Ultima sheets, Armaflex Ultima pipe supports, Armaflex Ultima 700 adhesive



The employees of Knivsta Isolering AB installed around 2 500 m of Armaflex Ultima tubes and 1 000 m² of sheet material in the Skandion Clinic



Armaflex Ultima is listed as non-hazardous by Bygghälsöbetygningen (BVB), the Swedish institute that assesses the sustainability of building materials - an important selection criterion for this demanding project



The air ducts were also insulated with the new elastomeric insulation material, which develops significantly less smoke in a fire than traditional FEFs



Armafix Ultima pipe supports ensure that the pipe is isolated from the bracket and thus prevent thermal bridges