

FROM THE JOBSITE

AF/Armaflex and Armafix AF
in the Hilton Schiphol Hotel



A NEW STAR ON SCHIPHOL BOULEVARD

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.

Sparkling diamond on the way to the airport

The new Hilton Amsterdam Airport Schiphol Hotel is a striking new landmark in the Dutch capital. The exterior is dominated by the curved cubic structure and diamond-shaped facade ele-

ments. With its apparently random arrangement of glass, grey and white elements the building looks like a huge diamond from a distance. Above the plinth, the hotel tower was rotated by 45 degrees setting it apart from the neighbouring buildings on Schiphol Boulevard. This effect is further emphasized by the building's rounded corners. Other highlights of the hotel, which has 433 bedrooms and 23 conference rooms, are the 42-metre-high, glazed-roofed atrium and the column-free ballroom suitable for events with up to 640 guests. Schiphol Airport is just a few minutes' walk away and is reached via a covered pedestrian passage.

BIM pioneers in the Netherlands

The Hilton Amsterdam Airport Schiphol Hotel is one of the first major projects in the Netherlands to be designed as a virtual model in BIM (Building Information Modelling). As such it is a true pioneering achievement by the Delft architecture practice Mecanoo and engineering firms Deerns (Rijswijk) and ABT (Velp) in conjunction with the Schiphol Hotel Property Company (a subsidiary of Schiphol Real Estate). Designing the hotel in BIM has the additional benefit that the model can now also be used to manage and maintain the building efficiently.

Sustainable hotel building

When planning the hotel great importance was attached to the sustainability of the building. En-

ergy 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: hot and cold storage in water-bearing layers at a depth of 130 metres, low-temperature heating, heat recovery from conditioned air, high yield MEP systems for heat and cold generation due to the use of heat pumps, as well as energy-efficient lighting and optimized ventilation. The atrium plays a key role in the concept. It admits natural light into the interior of the building and at the same time is important for climate control. Before the outdoor air enters the atrium it is filtered and pre-treated for the hotel rooms. To prevent the interior becoming too hot, anti-sun glass was used for the roof.



Photo: © 2016 Hilton Amsterdam Airport Schiphol®

GREEN HOTEL

The Hilton Amsterdam Airport Schiphol hotel is aiming for an "Excellent" rating in the Dutch BREEAM-NL Standard and has just been awarded the "GreenLeader Gold" certificate by TripAdvisor, the world's largest travel website.

Higher energy efficiency thanks to high-performance insulation

The heating and cooling demands of the building are met by heat pumps; heat wheels, twin-coil or cross-flow exchangers were installed for air-handling with heat recovery. 95% of the fans and pumps of the low-temperature heating systems are frequency controlled. 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, whose line temperatures lie above the ambient temperature in winter and below it in summer, were also protected against condensation with AF/Armaflex. The insulators installed some 4,000 m² of AF/Armaflex sheet material in an insulation thickness of 25 mm on the ducts. The classic insulation material with particularly low thermal conductivity and high resistance to water-vapour transmission ensures high energy efficiency and lower operating costs over the whole service life of the insulated equipment. Using the Armafix AF pipe supports makes the system perfect.



More Information about AF/Armaflex Insulation system and Armafix AF pipe support can be found at www.armacell.eu



AF/ARMAFLEX SHEETS

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 have long-term protection against condensation and energy losses.



AF/ARMAFLEX TUBES

The highly flexible material is quick and easy to install. In addition to the standard tubes that has been used at the Hilton Hotel there are endless- and selfadhesive version of AF/Armaflex are available.



ARMAFIX AF PIPE SUPPORTS

Armafix AF pipe supports are recommended for use where thermal bridging may occur. This is particularly important on refrigeration and chilled water pipes where condensation between the pipe and its fixing could taking place.



System solution with the Armafix pipe support

In cold applications, pipe brackets represent a potential weak point in the insulation unless they are correctly insulated. If the pipe is not thermally isolated from the pipe bracket, thermal bridges occur and condensation can form. This leads to increased energy losses, the risk of corrosion and the danger of expensive secondary damage rise. The Armafix pipe support thermally isolates the pipe and bracket from each other. Together with the adjoining Armaflex material it forms an insulation system with long-term reliability for cold applications. The pipe support consists of AF/Armaflex in which segments made of pressure-resistant, environment-friendly PET are embedded. On the outside, shells made of painted aluminium sheeting are glued around the elastomeric insulation material. These distribute the load and also act as an additional vapour barrier. The Armafix pipe support provides the highest possible reliability and can be installed simply, quickly and neatly. When using standard clamps it is necessary to insulate the pipe up to the clamp, glue the ends of the insulation material to the pipe and then apply Armafix to the supporting device. In contrast, Armafix is simply placed around the

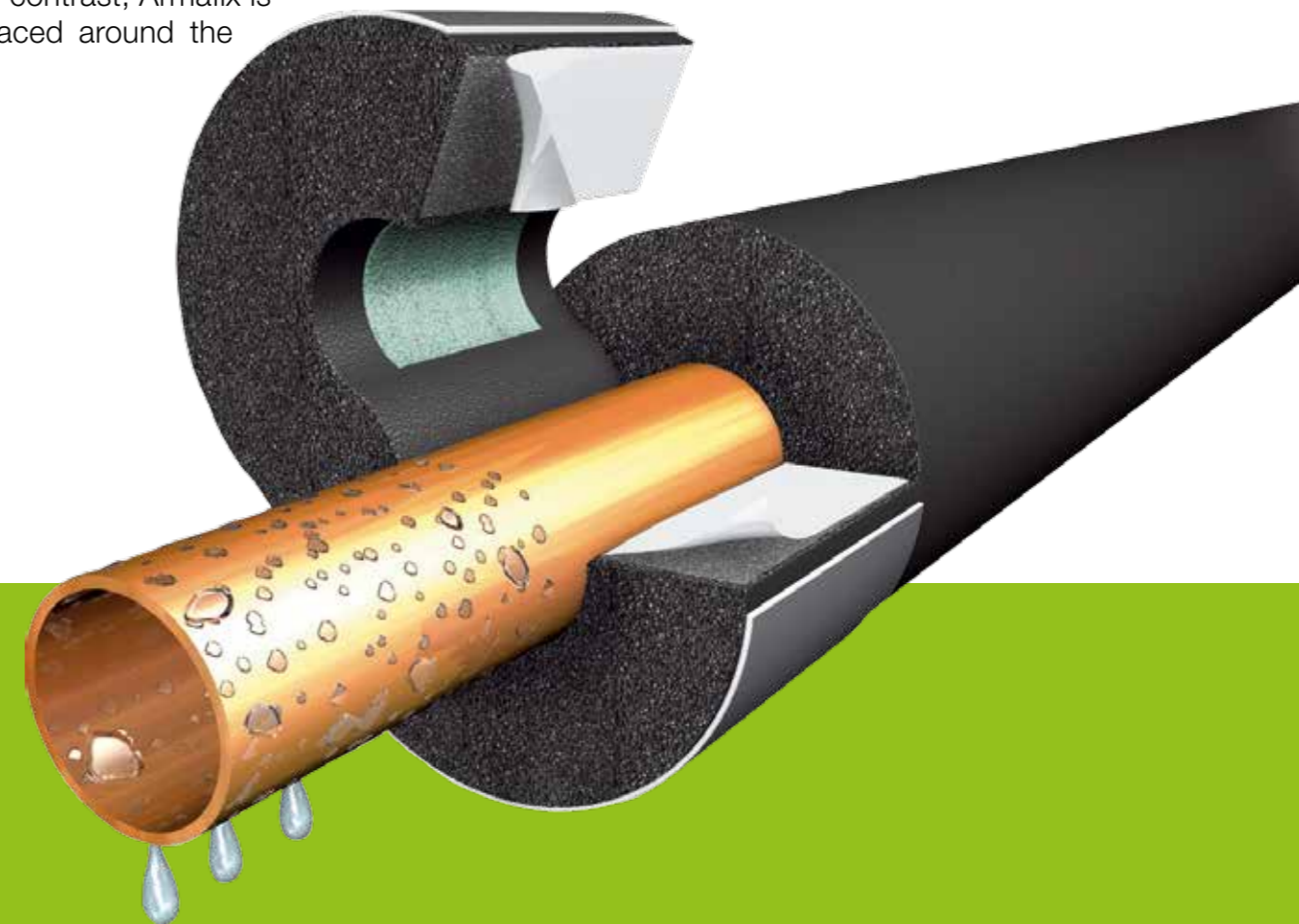
pipe and fastened with the self-adhesive closure. During the subsequent work, the insulator just glues the ends to the tube material. Using Armafix allows savings in terms of time, material and costs.

More security with the Armaflex System Warranty

In the Hilton Schiphol Hotel the insulation work was carried out under the Armaflex System Warranty. In this scheme trained and certified insulation contractors benefit from a warranty of up to ten years, instead of the statutory two years. The Armaflex System Warranty not only offers certified firms a direct competitive advantage, specifiers, wholesalers and clients also benefit from the seal of quality. Because reliability and quality are crucial in cold applications. In many markets insulation contractors attend Armacell training courses on a regular basis and have already been certified as trained Armaflex insulation companies.

ARMAFLEX SYSTEM-WARRANTY

With this seal of quality the Hilton Schiphol Hotel, which opened in December last year, can be sure that cold installations have been insulated to the very highest standards in terms of quality and reliability.



Warranty of 10 years



Hans de Klein

Technical Commercial Director
at Riweltie BV insulation contractors

“We realized this project with the Armaflex System Warranty. Last year, our employees were trained and certified in the correct installation of Armaflex at OOI, the Dutch training foundation. 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.”

Armacell GmbH

Robert-Bosch-Straße 10 • 48153 Münster Germany
Fon: +49 (0) 251 76030 • info@armacell.com