

PROJECT REFERENCE

SNØHVIT

Armaflex®

- **Summary**

"Snow White" lies in the icy Barents Sea in the Arctic North of Norway. When the gigantic Snøhvit ("Snow White") natural gas field was discovered in 1984, no technology existed for extracting the gas reserves safely. The petroleum group Statoil went to enormous lengths to develop the source with a total investment of approximately 4.5 billion euros. The natural gas is drilled on the seabed by a fully-automatic facility with 21 wells at a depth of 300 metres. From there the gas is piped via special subsea pipelines to Melkøya Island, which is nearly 160 km away.

- **Place**

Norwegian Sea, 140 km northwest of Hammerfest, Norway.

- **Specifier / Engineer**

Linde AG

- **Installation date**

December 2007

- **Market segment**

Oil and gas industry

- **Application**

LNG Pipelines

- **Insulation systems used**

Armaflex sheets



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Statoil awarded the German company Linde AG the contract for designing and building the LNG facility. The components for the liquefaction plant were pre-assembled on eight construction sites in Europe and then shipped to the Barents Sea. The cold box in which the natural gas is liquefied by cooling it to -163°C was pre-fabricated in Bremen (Germany). Final assembly to a 65-metre high tower was carried out by Fabricom in Antwerp (Belgium). It was also here that the pipes in the individual modules were joined and insulated.

A multi-layered construction consisting of various materials was used to insulate the pipes, which have a line temperature of -163°C . First, they were insulated with cellular glass and then covered with a self-adhesive aluminium/polymer vapour barrier.

To provide protection against moisture penetration, the pipes were then insulated with Armaflex sheet material (13 and 19 mm) and jacketed with aluminium sheets. In Belgium alone around 35,000 m² of Armaflex sheets were used.

The huge 3,200-tonne cooling tower was shipped in May 2005 and connected to other installations on Melkøya. So far the Norwegian subsidiary of the German insulation company Käfer has installed a further 25,000 m² of Armaflex sheet material to insulate the cryogenic pipes. Käfer used the same insulation construction as Fabricom, but with self-adhesive sheets.

Snøhvit started commercial production in December 2007 and an annual total of 4.1 million tonnes of liquefied natural gas are to be exported until 2035.

Altogether the Snøhvit field will meet the global need for natural gas for one year.



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