

CRYOGENIC INSULATION

For H₂ and LNG systems at filling stations



IC offers a multi layered insulation system with a high quality cold insulation package for cryogenic piping systems. The insulation is vapour tight, non-combustible and pressure-resistant. As with the project shown, the design and finishing are carried out in consultation with the customer. Because of the complexity of many installations a two phased approach, each with a short turnaround time is often desired.

THE RESULT

- Environmental and cost saving
- Prevents frost wounds
- No icing
- Less production loss



BACKGROUND

Cryogenic cold insulation of trailers, tanks and piping systems need a specialised approach. An approach that takes into account not only the properties of the object to be insulated, low temperature, medium, but also the requirements with regard to the maintenance and the protective finish of the insulation materials.

THE CHALLENGE

A situation with limited space where high quality insulation had to be installed on pipes of an H₂/LNG filling system within a short period of time. This is a low-temperature system, in which the temperatures, depending on the process design and medium, lie in an area between -35°C and -196°C. A complete vapour tightness and sufficient thermal resistance of the multi-layer insulation are essential.



DESIGN

The design of the insulation layers with vapour barriers and anti-perforation film is completely realised by IC. On the basis of the supplied working drawings of the installations, the insulation systems have been designed completely tailor-made at this stage. In other situations, IC can measure any existing systems on location.

THE SOLUTION

A cryogenic, fire resistant and/or non-flammable insulation package, consisting of several layers of foamed glass insulation material with a vapour barrier. The insulation system is finished with an aluminium or stainless steel mantle. Depending on customer requirements, the sheet metal is finished in a RAL colour.

SUPPLEMENTARY INFORMATION

IC also has experience with the installation of insulation systems for liquid oxygen and nitrogen lines of -183°C or -196°C respectively.



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