



Homogenous perfect-fit turbine  
insulation with the HardCAP system



## Increased performance with spray insulated turbines using HardCAP

**Thermal insulation is of central importance for the efficiency of a power plant. The performance of the turbines can also be optimised with the right insulation method.**

### **Tailor-made insulation**

Complex turbine shapes require high-quality, customised insulation systems that can be individually tailored to the turbines in question. The G+H HardCAP system provides the ideal solution: it offers a positive-fit, homogenous, jointless insulation system and consequently ensures effective thermal insulation. Thanks to inorganic materials, HardCAP is incombustible and complies with Class A1 according to DIN 4102. The relatively high density of the insulation, of between 180 kg/m<sup>3</sup> and 250 kg/m<sup>3</sup>, has a positive effect on the cooling of the turbines during short downtimes.

### **Well protected**

Water is added to the mineral wool-cement mix and it is applied to the turbine housing with compressed air. It already demonstrates high strength without any further surface protection. The subsequently applied hard cover prevents oil and water from penetrating into the insulation. This significantly reduces the risk of fire and thus assures the safe operation of the plant. And the five to ten millimeter thick hard cover also protects against mechanical damage and can be stepped on. The coating provides a choice of colouring options and clean, dust-free, easy-clean surfaces.

## High resistance

The felting of the fibres as they are applied gives the HardCAP system sufficient elasticity to absorb any thermal expansion. This prevents tension cracks from developing due to temperature profiles.

## Excellent bonding and adaptability

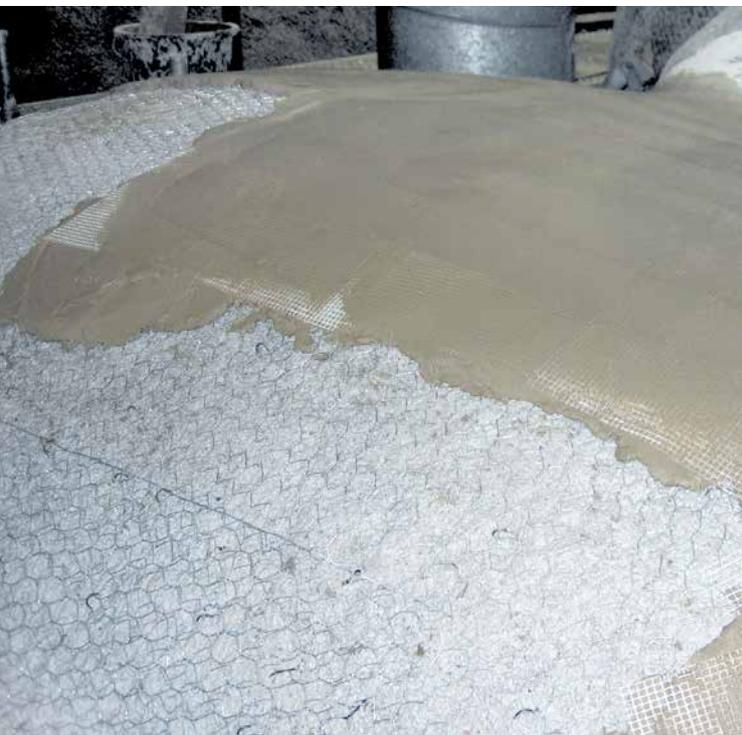
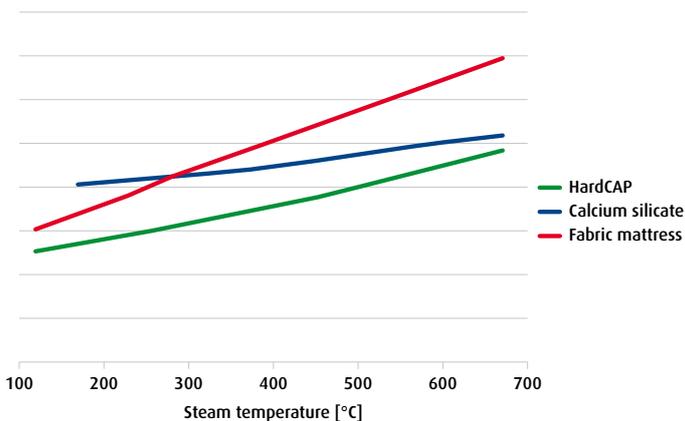
HardCAP bonds to all load-bearing surfaces and is also the ideal solution for repairing old thermal insulation. The texture of the thermal insulation, from fine to coarse, can be adjusted incrementally and applied to the plant components with a perfect fit.

## Low heat conduction

This insulation system prevents joints from being created in the first place, thereby minimising thermal bridges. As a result, the turbine casing heats up evenly and the stresses caused by thermal bridges are reduced. In comparison to other common insulation concepts, such as fabric mattresses or calcium silicate, the HardCAP system demonstrates significantly lower thermal conductivity, which means more effective insulation and thus improved efficiency (see illustration).



Thermal conductivity



## Clean working

The thermal insulation is sprayed directly onto the turbine with the required layer thickness. The HardCAP system is applied with low dust generation and with very little added water, which ensures quick hardening and drying of the applied mineral wool and a clean installation area. The homogenous covering, which is 200 to 350 millimetres thick, also has a positive effect on the acoustic insulation.

## For universal use

Even areas that are difficult to access, such as bearing points, can be insulated easily with the spray method. A basket-like structure is created using rib lath and wire mesh at the required distance from the surface of the turbine. The required insulation thickness can then be achieved here too by spraying to infill the spaces.

## Simple disassembly

The insulation system, which is applied by our specialists, can be partially or completely dismantled quite easily for inspection purposes using standard tools. After inspection, the missing insulation can be applied again jointly.

## Turbine insulation specialists

G+H Insulation is a leading supplier of (spray) insulation for turbines. Decades of experience have gone into the development of our HardCAP systems. Get in touch with us to discover their advantages for you.



**Your professional partner for turbine insulation:**

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