



Case Study:  
Morgan delivers superior  
insulation solution to  
offshore wind farm

## The challenge

German electricity transmission grid operator TenneT commissioned Siemens Energy and Prysmian Powerlink to construct a power grid connecting a series of offshore wind farms in the North Sea to shore.

Each farm contains a number of high-voltage direct current converter platforms, housing significant quantities of hydrocarbon products that can produce fire temperatures of up to 1,000°C. With each converter platform containing 4,000m<sup>2</sup> of transformer rooms requiring 60 minutes resistance against hydrocarbon fuel fires, an efficient fire-resistant solution was essential.

The companies asked Morgan Advanced Materials to recommend and supply a suitable fire protection solution for the scheme.

## How Morgan worked to develop a solution

Morgan Advanced Materials supplied its low-density FireMaster® Marine Plus blanket to meet the specific requirements of this project. The high-performance FireMaster® Marine Plus blanket ensures temperatures of 140°C on the internal face are not exceeded, while withstanding temperatures of up to 1,100°C on the fire-exposed face.

Morgan's FireMaster® Marine Plus offers exceptionally high temperature resistance, a low installed thickness and low weight, making it the most suitable product for this installation. It provides fire protection materials capable for extended periods of time and can be specified with an individual project in mind.

## The result.

FireMaster® Marine Plus blanket is fully certified by DNV and other leading Class Societies, underlining the fact that it has been tested to rigorous fire protection standards. As well as its thermal capabilities, the importance of reducing weight for maritime applications cannot be underestimated. Excessively heavy topside structures can create problems when modules are lifted into place. Extra support strength for the structure may also be required, leading to increased costs.

Weighing less than 6kg/m<sup>2</sup>, the material only needed to be provided at a thickness of 80mm to offer the required fire protection. Its space-saving ability means the system takes up approximately 40 per cent less space than alternative materials.

It also offers a 25-50 per cent weight reduction compared with traditional mineral wool and alternative materials on the market.

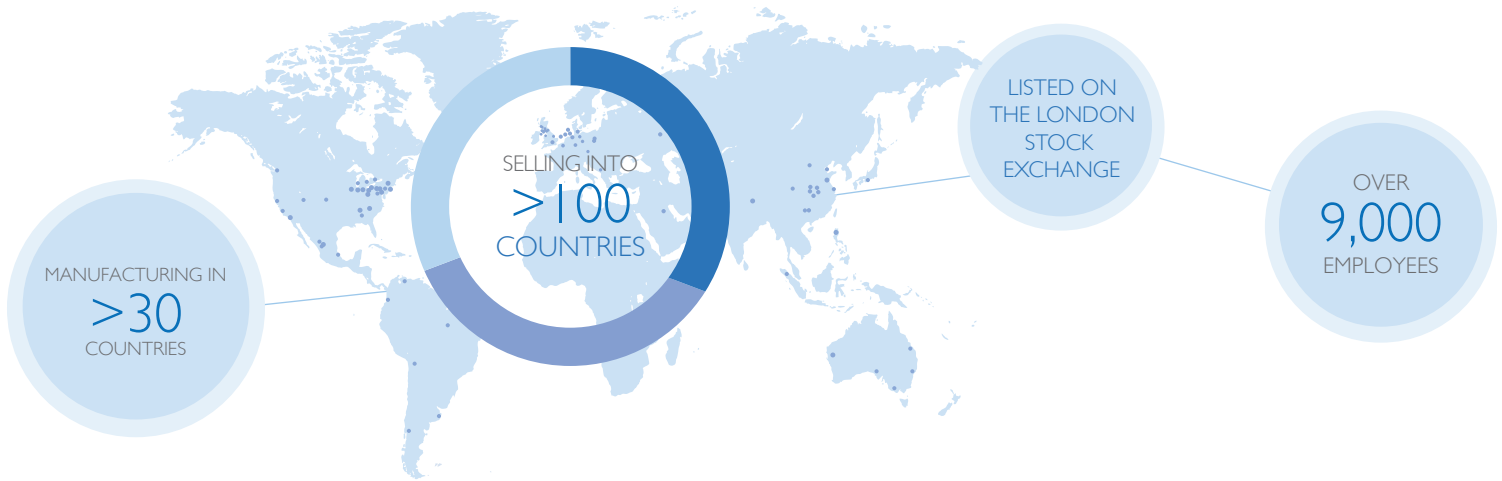
The FireMaster® Marine Plus blanket system used weighs less than **6kg/m<sup>2</sup>** and ensures internal temperatures of **140°C** are not exceeded

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FireMaster® Marine Plus offers exceptionally high temperature resistance, at a low installed thickness and low weight



## ABOUT MORGAN ADVANCED MATERIALS



Morgan Advanced Materials is a global engineering company offering world-leading competencies in materials science, specialist manufacturing and applications engineering.

We focus our resources on the delivery of products that help our customers to solve technically challenging Problems, enabling them to address global trends such as energy demand, advances in healthcare and environmental sustainability.

### What differentiates us?

- Advanced material science and processing capabilities
- Extensive applications engineering experience
- A strong history of innovation and reinvention
- Consistent and reliable performance
- A truly global footprint
- We find and invest in the best people

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