°COMBITHERM

Thermal solutions for the

Wind turbine industry

Temperature matters

Effective curing of wind turbine blades

The production of wind turbine blades is a complicated process and requires assurance that the correct temperature is present when the blade elements need to achieve their strength during curing. Combitherm blade covers provide you with a specially developed thermal solution that can withstand temperatures of up to 220°C.

Strong wind turbine blades require even heat distribution during curing

It is crucial that the curing process during the production of wind turbine blades takes place under optimal temperature conditions. When resin is used during the production process of wing elements, the curing process often needs to be carried out under high temperatures where heat must be distributed evenly over the entire wing element.

This can be difficult when handling very large items, such as wind turbine blades, regardless of whether the blades are produced in one piece or as two shells, which are then glued together. Heat generation during the curing process is crucial when it comes to the wind turbine blades developing their strength, which must be able to withstand the impact of vibrations, wind and weather.

The curing process is optimised, and energy consumption is reduced

Various insulation methods are used in connection with the curing process of wind turbine blades, but many are associated with several disadvantages. One of these is using single-use plastic for covering, but this solution generates a lot of waste that is not sustainable. Single-use plastic is also unable to withstand high curing temperatures and does not provide sufficient insulation, which prolongs the curing time.

The effects of temperature from the surroundings on the wing element may also have consequences. Temperature fluctuations in the surroundings can contribute to deterioration in the quality of the wing elements. Heating the halls where the wind turbine blades are produced can be a costly affair, but one solution for curing wind turbine blades is the specially developed blade covers from Combitherm.

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Strong solutions and collaborations

Dencam Composites A/S produces two to four large moulds for the production of wind turbine blades a year, and these are for blades for both offshore and onshore wind turbines. The company has around 250 employees, who are spread across the factory in Stenstrup, a department in Rudkøbing and one in Fåborg.

DENCAM
Innovative Model Processing

There is a great deal of confidence in the collaboration with Combitherm because we have to be able to trust the quality, even under time pressure, which can certainly happen....

Søren Pedersen, Procurement Manager, Dencam Composite A/S.

Making moulds for the production of wind turbine blades requires precision almost at the level of aerospace engineering. Advanced calculations, diligent manual work and dimensional tolerances down to 0.2 millimetres underlie the success of Dencam Composite A/S.

"To ensure an effective and even curing of wind turbine blades, it is very important to control the temperature throughout the casting process, partly while we are making the mould but also later when it comes to casting the blades. This is where we make use of Combitherms many years of expertise, because these are some very large blade covers, which are as long as the turbine blades that are cast in the moulds," Søren Pedersen, Procurement Manager at Dencam Composite A/S explains.

→ Read the case at en.combitherm.dk/cases

Find more info here
en.combitherm.dk

Combitherm

Thermal blade covers

Optimised curing of wind turbine blades ensures quality and strength

Wind turbine blades must withstand the effects of vibrations, wind and weather, and an even curing is therefore essential when it comes to the wind turbine blades developing the right quality and strength.

Combitherm thermal blade covers are an effective solution produced according to specific measurements, which means that they fit perfectly over the moulds. This reduces temperature fluctuations and ensure an even and consistent heat distribution over the blade elements.

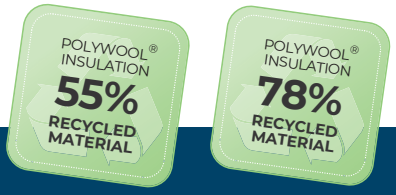
Quality, Inside Out

Blade covers from Combitherm are produced according to specific measurements, which means that they fit perfectly over the moulds. This reduces temperature fluctuations and ensure an even and consistent heat distribution over the wing elements. The strong multi-layer construction can also withstand high temperatures of up to 220°C, which can help reduce curing times during production. The high insulation performance can therefore result in lower energy consumption and the solution is uniquely adapted to the individual production conditions, which makes the covers easy to handle.

Noticeable advantages

- Insulation of 55% or 78% rPET fibres depending on the choice of material
- Ensure strength and uniform quality
- Optimised curing even with significant temperature fluctuations
- High insulation capacity and less energy consumption
- Reduce energy consumption from external heat sources
- Optimised material consumption
- Efficient use of the moulds

→ Find thermal solutions for the wind turbine industry at en.combitherm.dk/industries/wind-turbine-industry



Caring about the environment

An uncompromising choice of materials and a proven design mean that Combitherm blade covers have a long lifespan and can be reused time and time again.

The high quality and effective insulating ability means that the thermal blade covers ensures that the heat is evenly distributed over the entire blade element during curing.

Customised thermal solutions

Combitherm thermal blade covers are tailored to individual needs and delivered in all sizes and shapes (possibly divided into sections) adapted to individual production conditions.

Temperature matters

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