



# Advanced thermal solution ensures stable temperature in moulds for wind turbine blades

**The only manufacturer of moulds for the production of wind turbine blades in Europe and North America, Dencam Composite A/S is a Danish company, and Combitherm's specially sewn thermal blade covers form a natural part of the advanced casting process to ensure the right quality and strength of the wind turbine blades.**

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.

In the factories on Langeland and Funen, the moulds are made from scratch and the sections are built in the over 100-metre-long buildings that provide the setting for the production of the moulds. The moulds have increased in size over the course of development in recent years. The moulds are built in sections, assembled, and thoroughly tested before leaving the factory and being transported to the customers, who are major European and North American manufacturers of wind turbines.

## Advanced casting processes

A tool for casting blades consists of a composite shell with a built-in heating system in which the end customer casts the blade. Underneath is a large steel frame that gives the tool strength and into which all the heating and other systems that the customer uses to cast the blades are installed. During the process, the glass fibres used when casting must harden, and this is where Combitherm comes into the picture.

"We use large thermal blankets to keep the temperature in the mould stable – during the first stage when we make the mould ourselves, and then the blanket is supplied as an integrated part of the mould.

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*Søren Pedersen  
Procurement Manager  
Dencam Composite A/S*

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The large, specially sewn thermal blade covers are reused to regulate the curing process when the blade is cast,” explains Søren Pedersen, who is responsible for purchasing at Dencam.

“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,” he explains.

### Great confidence in the collaboration

“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. If we get a set of drawings approved by one of the wind turbine manufacturers, we must work quickly, and you can only do that when you have in-depth specialist knowledge, and that is what we experience with Combitherm,” he says.

It is a collaboration that has developed over several years and that has also led to Combitherm having specially trained staff responsible for sewing the huge blade covers.

“We find Combitherm very professional, flexible, and really very pleasant to work with. And having a trusting relationship with our partners means everything in our world, because otherwise we cannot deliver the quality currently required,” says Søren Pedersen.



*Søren Pedersen is responsible for purchasing at Dencam and has great confidence in the collaboration between Dencam and Combitherm. Photo: Torben Sigh.*

*Dencam Composites A/S has around 250 employees, who are spread across the factory in Stenstrup, a department in Rudkøbing and in Fåborg, where the more specialised products are manufactured.*

*“We make perhaps two, three or up to four large moulds a year, and these are for blades for both offshore and onshore wind turbines. It is a special niche that requires a great deal of know-how, both from us and from our partners,” says Søren Pedersen.*

*Dencam Composites A/S has had a really busy 2023 so far but expects a slightly more subdued year in 2024.*

*“The energy sector goes up and down, and that is a factor you learn to live with. But we have got lots to do, including projects that will last until 2025,” recounts Søren Pedersen, who has worked in several roles in the energy sector throughout his career.*

### World-class customised thermal solutions

*Combitherm is amongst the leading European manufacturers of flexible, tailor-made and energy-saving thermal solutions for a wide range of industries working with temperature-sensitive products and processes and where temperature fluctuations must be kept to a minimum.*

*Our products include thermal covers, concrete duvets, winter mats, asphalt duvets, blade covers, truck partitions as well as insulating mats, - all important elements when the cold chain needs to be secured during transport and storage of e.g., foods and medicine or when casting and curing processes needs to be stabilised within the wind turbine and building & construction industries.*

*All development and production take place in Denmark, and with more than 40 years of experience, Combitherm offers advice and sparring thereby ensuring that our customers get an optimal, customized solution with long durability and consideration for the environment.*

**Temperature** matters

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