



Vestas Technology R&D Center is the first building in Denmark to achieve the level "Platinum" within the international certification system for sustainable building, LEED.



#### FACTS

Architect: aarhus arkitekterne a/s  
Landscape architect: 1:1 Landskab ApS  
Contractor: Jacobsen & Blindkilde A/S  
Engineer: Rambøll Danmark A/S  
Client: Vestas Wind Systems A/S  
Location: Lem, Denmark

#### TROLDTEKT PRODUCTS

**Ceiling panels:** Troldekt  
Colour: Natural wood  
Structure: Ultrafine  
Edge: K5-FN  
**Lighting:** Troldekt lighting, Wave round and Wave transversal

## Vestas Technology R&D Center

Vestas Technology R&D Center in western Jutland is the first platinum-certified LEED building in Denmark. The building was designed by architects aarhus arkitekterne a/s who have created a sustainable facility which encourages ideas for tomorrow's wind turbines.

aarhus arkitekterne a/s

Adjacent to existing production hall 9 at the large Vestas complex in Lem, the Vestas Technology R&D Center has sprung from the ground as an architectural symbol of the company's long-standing green agenda.

"Externally the building has all the characteristics of an traditional industrial grey concrete complex," says Michael Green from aarhus arkitekterne who was the project architect for the building which was completed in 2010. "In fact, looks can be deceiving because inside a radically innova-

tive approach has been taken. This is where engineers and other energy experts are developing the wind turbines of the future – in a highly sustainable environment."

Vestas Technology R&D Center is the first LEED building in Denmark to achieve certification in the platinum category under the US sustainability scheme LEED, one of the world's three leading voluntary certification schemes. Among other things, the LEED scheme awards points to buildings according to their level of resource

consumption and how employee working conditions are integrated into the project. The LEED certification categories also include gold, silver and bronze.

"In addition to positioning rooms and windows so they fully utilise the energy from passive solar heating, we have also endeavoured to create a welcoming work environment and indoor climate – such as 'quiet rooms', informal meeting areas and touch-down workstations," says Michael Green.

Throughout the process, he worked closely with engineers from Ramboll consultants, one of the few LEED assessors in Denmark. It was Ramboll who was responsible for conducting numerous tests and measurements before, during and after the construction phase.

The Vestas building consists of two distinct and separate areas. One comprises offices and meeting rooms while the other has a public reception and waiting area, cafeteria, courtyard and patio. Seamless transitions were incorporated between the individual sections to provide optimum environments for project work and knowledge-sharing. The further the employees move away from the public zone, the more time they have for contemplation and research.

For all the ceilings – with the exception of the kitchen and changing rooms – Troldekt natural acoustic panels with an

ultrafine structure were chosen. These are integrated with Troldekt lighting.

"Troldekt is excellent for regulating the acoustics while the panels also add structure and warmth to the rooms in contrast to the building's clean cut and conservative façade. The fact that the panels are made from natural materials also suits the building's sustainability theme perfectly," says Michael Green.

The architects at aarhus arkitekterne have worked with sustainable building for many years. They see the three certification schemes – the US LEED, the British BREEAM and the German DGNB – as a good way for developers to provide clear documentation about the social, economic and environmental factors in construction.

Comments Michael Green, "When working with LEED, such as in this project, everything must be measured and weighed. This is a challenging and heavy

process where we constantly have to refer to long checklists for the individual solutions." He stresses that they often need to think very creatively with these tasks which involve many challenges in relation to materials and resource consumption requirements. Only when the building was completed in 2010 could Ramboll send all the documentation to the U.S. Green Building Council, the scheme's supreme authority. The building was then LEED-certified in the highest level platinum category.