



REPORT

Quick sealing solutions
for long-term reliability



For world-leading wind power operators, Roxtec cable entry seals are like sunshine after rain. The flooded wind turbine foundations in the top-modern Kisielice wind farm in northeastern Poland

are now sealed, dry and out of risk. Through great ideas and close co-operation, the companies involved succeeded in keeping water out and turning wind into useful energy. As the operational

reliability of all the affected turbines is ensured, it is business as usual again. And no more money is gone with the wind.

Roxtec team reports on site
– from Kisielice wind farm in Poland

We Seal Your World

The cost-effective sealing solution

The safety solution from Roxtec was exactly what was needed to protect the investments in the wind power industry from humidity, corrosion and downtime.



In the beginning of 2007, the Kisielice wind farm with an output of 40.5 MW was opened up. The soil was nice and dry, and conditions were perfect for an energy production big enough for a city of 25 000 households. Then it started raining. It became obvious that the cable entries based on cement or foam were not tight enough.

Need for protection

After days of raining, water appeared in several wind turbines. To stop the leakage, protect the investments and secure energy production for decades to come, a reliable solution had to be found.

Offshore to onshore

Wind farm power engineer Wojciach Sadowski knew the Roxtec sealing system and its unique features very well since his previous job as electrical installer at the shipyard in Gdansk. He explains why Roxtec was chosen: "Roxtec is the

best solution. It keeps tight and is easy to install. It is as easy as toy bricks." Adaptability to different cable sizes through modules with removable layers, area efficiency and possibility to modify and re-seal made installations also contributed.

Costs to avoid

Unfortunately, several tower foundation floors were already damaged. It took seven days per wind turbine for two installers to pump out the water, clean up the area and repair the base. That means almost 50 days for the seven wind turbines where it was urgent to take measures. It is not cost-effective to block service and maintenance staff with problems that should not occur. Downtime in a wind farm equals blown away returns.

Speed and flexibility

The installation of Roxtec offered a glimpse of sun. The work in the narrow space in the foundation was so much cleaner and faster than the





Roxtec seals are used under ground for the transformer kiosks in both Kisielice and at the sister wind farm in Malbork.

efforts demanded by foam or cement: "It took us two days instead of four! We got installation training from Roxtec, and we also know that we can get local support whenever we need," says Wojciach Sadowski. Thanks to Roxtec B frames, they could easily install the seals around the existing cables.

All in one solution

The experience from Kisielice shows that standardization would be profitable for everyone. With Roxtec, operators can easily standardize international projects and be sure of global support locally. They can count on fast roll-out, operational reliability and good returns. Designers can deliver wise and available safety solutions that protect against risks, extra costs and warranty claims. And subcontractors can perform their tasks in a cost-effective way, ensuring quality throughout long-term service and maintenance agreements.

Or as simply as Wojciach Sadowski put it:

“ Since we changed to Roxtec, there is no problem.



Roxtec cable seals are user friendly and area efficient.

Benefits:

- Certified water protection
- Rodent proof
- Area efficiency
- Quick and easy installation
- Local product availability
- Long-term reliability



Facts

Project type:	Wind farm
Customer:	Eneria (electrical maintenance of the wind farm)
Applications:	Cable seals in wind turbine foundations and transformer kiosks
Requirements:	Watertight Fire-proof Rodent proof Easy to install and inspect
Roxtec products:	Roxtec B frames Roxtec R frames Roxtec RS seals Roxtec adaptable sealing modules Roxtec wedge kits
Reasons for choosing Roxtec:	High safety demands Protection against water Fast, cost-effective installation Local stock, service and support

Roxtec wind power references

ABB, AREVA, BARD Engineering GmbH, Clipper Wind, Enercon GmbH, Fuhrländer, Gamesa Eolica, GE Wind Energy, MHI, M-Torres, Multibrid GmbH, REpower Systems AG, Siemens, Siemens Wind Power A/S, Suzlon Energy, The Switch, UESA, Vattenfall, Vestas Wind Systems A/S and WinWinD Oy.



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