

REPORT

Cable and pipe seals
for the energy sector



The BorWin Alpha is known as the biggest and most remote offshore wind farm cluster link project in the world. As selected supplier of both onshore and offshore cable sealing solutions,

Roxtec has proven to be an excellent partner in this international challenge. Roxtec seals protect against fire and electromagnetic disturbances and offer a unique flexibility for changes.

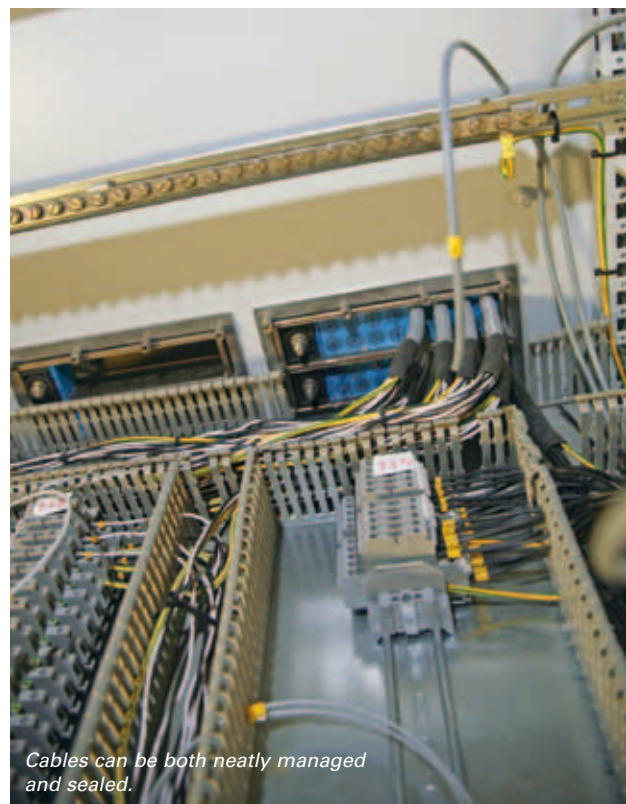
“The Roxtec transit design assistance makes us save a lot of time during planning and construction”, says Thorbjörn Nilsson, design engineer at ABB Power Systems.

Roxtec team reports on site
– from converter station platform
yard in the Netherlands

We Seal Your World™



Istimewa Elektro installer Jesper van Wieringen learnt how to install Roxtec seals during the installation training.



Cables can be both neatly managed and sealed.

Shielded seals for powerful projects

Building and commissioning offshore wind farms and transmission links at record time require first class technical solutions. This is why Roxtec seals are used in the entire wind cluster project – by wind turbine manufacturers as well as transmission specialists.

The wind farm is located in the North Sea, 125 km off the German mainland. The power generated will, for the first time in wind power history, be transmitted by ABB HVDC Light, which is a high voltage direct current transmission system enabling long distance transport with minimum loss. This will reduce CO₂ emissions and showcase how wind power can be both sustainable and profitable.

Sealing experts

History cannot be written until all parts are delivered. The converter station platform is built by Heerema in the Netherlands, where all partners must respect the tight time schedule. Roxtec is contributing in all phases – from design and purchase to installation.

“The service of Roxtec is excellent. We just call and get clear answers right away about which sealing

solution to use”, says Anny Wong, design engineer at ABB Power Systems.

Time is money

On-time delivery and flexibility within cable sealing is a must, since design changes are frequent. Missing the great deadline is not an option, because no one can wait a year or so for the next heavy lifting vessel departure. But even



Roxtec seals are adaptable to cable and pipes of different sizes through modules with removable layers.



The Roxtec sealing system is clean, area efficient and easy to use.

minor delays may turn into financial issues:

“It costs 20 times more to finish onshore yard works offshore,” says Thorbjörn Nilsson.

Must be tight

If speed is important, operational reliability is crucial. An error may threaten maritime safety, cause disturbance in the German power grid and lead to loss of energy production for E.ON. Roxtec seals are chosen to avoid downtime, even during retrofit and maintenance. “We have used Roxtec seals in previous projects and know that it is a well-proven and flexible solution. Therefore, we decided to use it again,” says Thorbjörn Nilsson.

Power under control

After advanced tests, performed in co-operation with Roxtec, ABB specified the Roxtec EMC seals to ensure protection against water,

fire, dust, and electro-magnetic disturbance. The electronic equipment is sensitive, and there must be no risk of confusion between disturbances and control signals. The platform is run remotely. Going offshore by helicopter in order to solve control equipment problems is costly and takes a lot of time.

Complete supplier

Roxtec provided free installation training for the installers. Project manager John Weick of Istimewa Elektro appreciates Roxtec kit solutions, since they reduce the need for stock:

“This is a pilot project for us, but I see possibilities for working faster with Roxtec. With some more experience, we count on reducing installation time and costs by 20 percent. What we want is one supplier for all needs, and Roxtec really provides a lot of solutions.”

” Roxtec provides well-proven sealing solutions



Benefits

- Watertight and fireproof
- Shielding against EMI/RFI
- Easy to design and install
- Flexibility and efficiency
- Local support and supply



Leo Konradsson, sales manager of Roxtec Sweden, and Thorbjörn Nilson, design engineer at ABB.

Facts

Project type: New-build of offshore converter station platform, transmission link and onshore converter station

Involved companies: E.ON Netz, Germany (owner)
 ABB Power Systems, Sweden (turn-key vendor)
 HFG Engineering US, USA (platform design)
 Heerema Vlissingen, the Netherlands (platform fabrication)
 Istimewa Elektro, the Netherlands (installation contractor)

Applications: Cable and pipe seals in offshore wind farm and power transmission

Requirements: Dust tight
 EMC solutions
 Fire-proof according to A-60 marine fire rating
 Watertight according to marine classification

Roxtec products: Roxtec S frames
 Roxtec SF frames
 Roxtec ES RS seals
 Roxtec SLFRS seals
 Roxtec Wedge kits
 Roxtec adaptable EMC sealing modules
 Roxtec adaptable sealing modules

Reasons for choosing Roxtec: Well-known EMC safety solution
 Cost-effective installations
 High demands for tightness and certificates
 Support in design, purchase and installation phases
 Multidiameter™ – adaptability to different sizes of cables and pipes

Roxtec power references:

ABB, AREVA, BARD Engineering, Clipper Wind, Enercon, Fuhrlander, Gamesa Eolica, Gaz de France, GE Wind Energy, MHI, M-Torres, Multi-brid, Iberdrola, REpower Systems, Siemens, Siemens Wind Power, Suzlon Energy, Terna, UESA, Vattenfall, Vestas Wind Systems, WinWinD.



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