

# REPORT

Marine cable transits for electro-magnetic shielding



Viking Dynamic belongs to a new breed of fast, slim and flexible offshore platform supply vessels. It is quick to load and unload, and the diesel electric propulsion ensures low fuel consumption. The

propellers are electric-powered, and speed is controlled via frequency converters. But there is no risk of frequency disturbance, thanks to Roxtec fire-proof cable transits for potential equalization

and electro-magnetic shielding. As a supplier, Roxtec meets the demand for simplicity, flexibility, speed, and safety.

**Roxtec team reports on site**  
– from the building of Viking Dynamic in Norway

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# Roxtec onboard new platform supply vessel

Roxtec PE transits have been installed to handle cables passing in and out of the converters. From here the cables pass on to the stern and to the electrical motors.

With a length of 90 meters plus, Viking Dynamic is fairly normal. Less usual is, however, the slim hull of the ship of just 19 meters width, shaped to provide higher speeds than normal. The purpose of the ship is to freight supplies just like other sea-going supply vessels, but with more agility and smoothness. From a design point of view, Viking Dynamic holds the same internal equipment as the wider vessels, but on less space. As a result the builders must do compact and flexible installations.

## Frequency filter required

Being a modern ship, Viking Dynamic has electrical propulsion. Diesel generators supply the two electric-powered propellers (ALCONZA 3300 kW, 4422 Hp). Speed is controlled by altering the frequency via frequency converters to the motors. The converters in a diesel-electric drive system may cause unwanted high frequency disturbance, and this must be

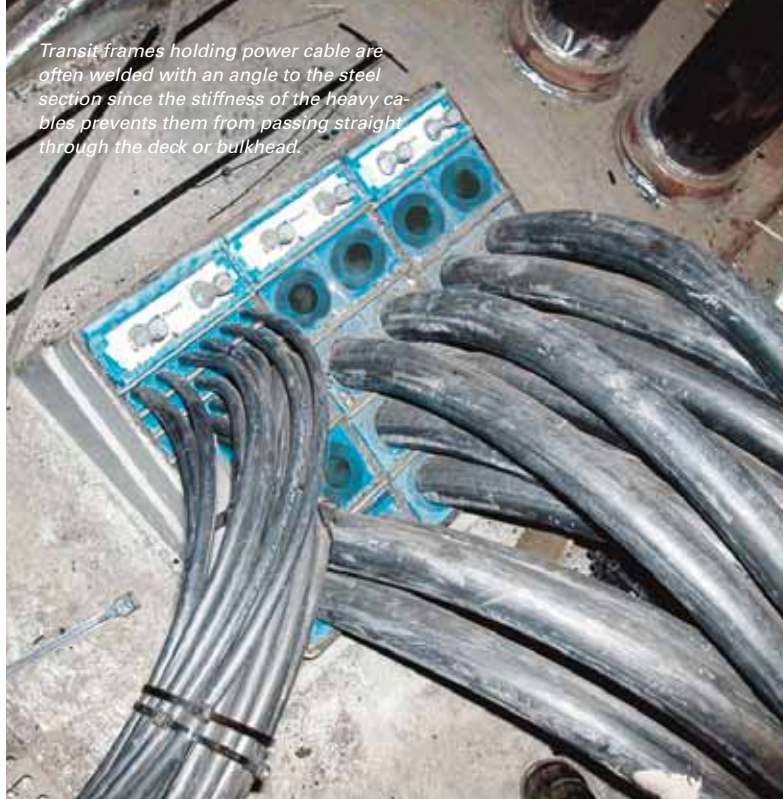


filtered out not to enter the motors, which in turn could face a risk of damage and subsequent repairs and loss of productivity for the ship.

## Ready-made solution

The solution came through Vik-Sandvik ship design and the engineering department at the parent company, Aker Aukra AS. Here the Roxtec transits have been known and used for a long time, and the awareness of the Roxtec solutions

for EMI (electro-magnetic interference) and PE applications came in handy. The choice fell on Roxtec PE (potential equalization) and ES (electro-magnetic shielding) transits because they offered the yard a straightforward and ready-made shielding solution for the cables from the converters to the motors in combination with fire-proof transits for marine environments.



### Choosing Roxtec again

The electrical installations started two weeks into December 2001. In April 2002, the electrical power will be switched on to validate all equipment and installations onboard. "We estimate to deliver the ship in June 2002," says Jostein Hallaraker, our guide from the engineering department of Aker Aukra AS. "By then we will already have started building number two in the series."

### Reliable sealing solutions

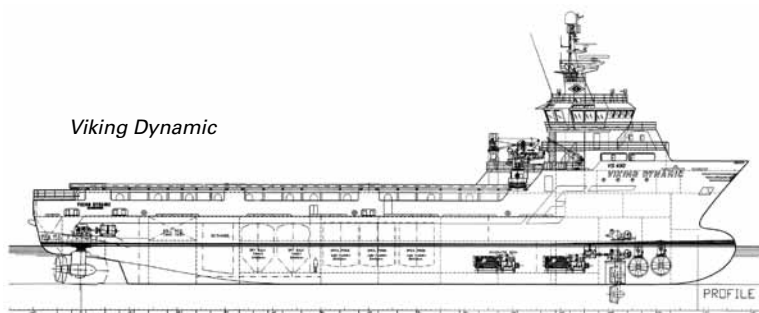
Roxtec transits are used in the middle to stern section of the ship in the electrical supply chain to the propulsion, handling both power and signal cables. In the vicinity of the power generators and transformers, and in the converter cabinets up to the motors, Roxtec PE and ES solutions have been installed. In other areas, bulkheads and decks, the choice has been Roxtec standard transits in various sizes.



### Benefits:

- Certified safety
- Easy installation
- Long-term reliability
- Potential equalization
- Electro-magnetic shielding

” Naturally Roxtec will be the choice for the next vessel too.





*Jostein Hallaraker, Aker Aukra AS (right) and Jan Roger Fusdahl (left) from Roxtec AS.*

## Facts

<b>Project type:</b>	Platform supply vessel building
<b>Customers:</b>	Simon Mökster Shipping AS and Eidesvik & Co Shipping A/S (owners) Vik-Sandvik A/S (design) Aker Aukra AS, Aker Yards, Molde, Norway (builders)
<b>Applications:</b>	Shielded and non-shielded cable transits in electrical propulsion system, power distribution and signal cabling onboard
<b>Requirements:</b>	Fire-proof Watertight Potential equalization Electro-magnetic shielding
<b>Roxtec products:</b>	Roxtec PE and ES transits Roxtec standard transits Roxtec adaptable sealing modules Roxtec wedge kits
<b>Reasons for choosing Roxtec:</b>	Fire-proof seals for the marine environment Ready-made solution for shielded electrical cable installations Overnight deliveries from Roxtec supplier
<b>Roxtec marine and Oil &amp; Gas references:</b>	Agip ENI, Aker Yards, BP, Chrevron, CNOOC, CNPC, Conoco-Phillips, Daewoo Heavy Industries, Dalian Shipyard, ExxonMobil, Fluor, Foster Wheeler, Hyundai Heavy Industries, Jinling Shipyard, Keppel Fels, Kvaerner, Raffels Shipyard, Samsung Heavy Industries, Shell, SINOPEC, Statoil, Technomare.



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