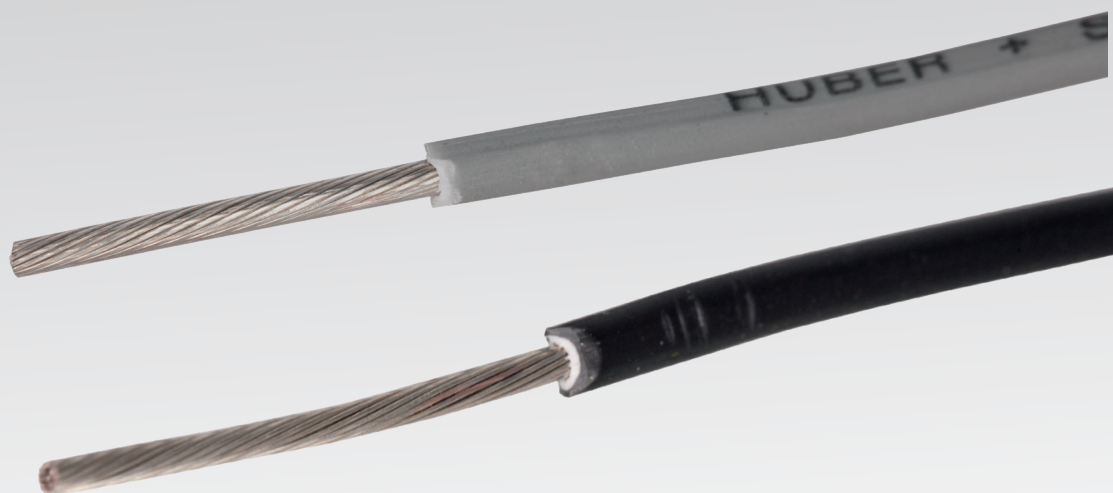
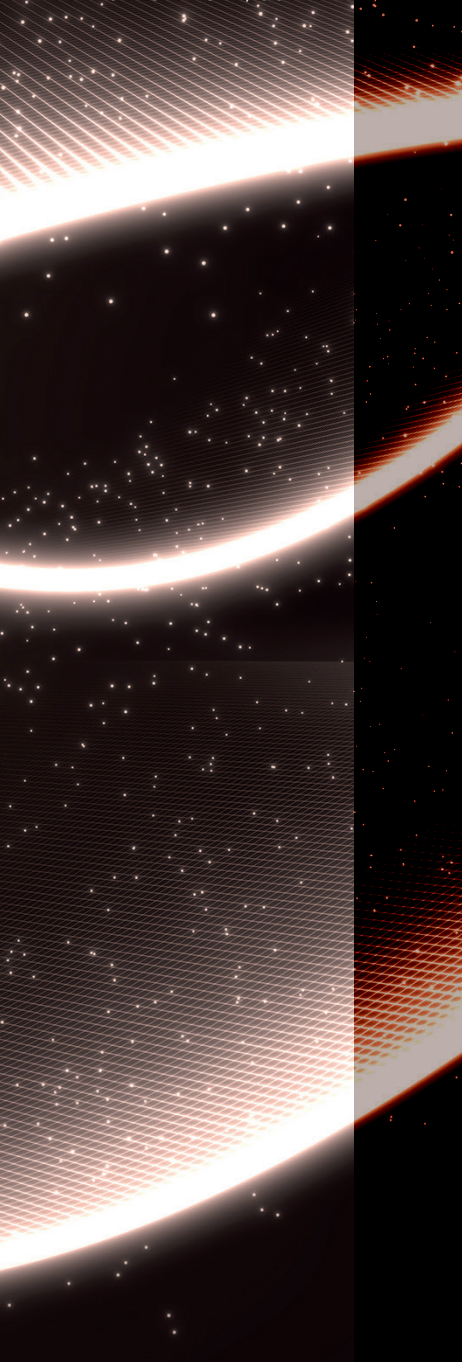


RADOX® 125 single-core cable

Best-in-class for industrial
and process automation

Edition 2022/05



Where safety and quality are top priority



Oil & Gas



Petrochemical



Power Plant

Safety has always been a critical topic for switchboard and switchgear installations, including those within safe or Ex areas in the process industries. And for applications in continuous high temperature environments, standard cables quickly age and become brittle, thus requiring regular maintenance to ensure operational safety.

The RADOX® 125 single-core cable significantly reduces the Total Cost of Ownership (TCO) by delivering longer operational lifetime, easier processing and installation, as well as increased safety and durability when compared to other cables on the market. It is proven to be halogen free, low smoke and flame retardant, providing the highest safety assurance in case of fire.

RADOX 125 application areas

- Indoor and outdoor switchboard and switchgear installations
- Electrical, control and signal cabling
- High temperature electrical equipment, including sensors, motors or transformers
- Continuous high temperature environments
- Ex-d enclosure installations
- Meets halogen-free and flame propagation requirements

RADOX® 125 highlights

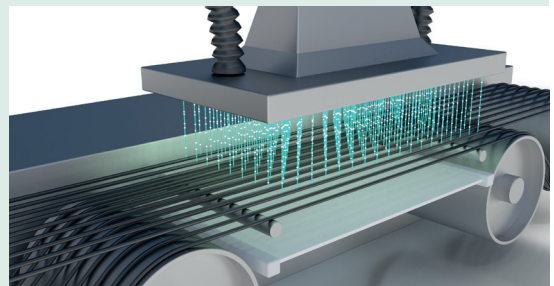
DNV-Approved

RADOX 125 is DNV-approved for both offshore and onshore installations to ensure a high quality and safe performance, regardless of the environment. It is proven to be halogen free, low smoke and flame retardant.



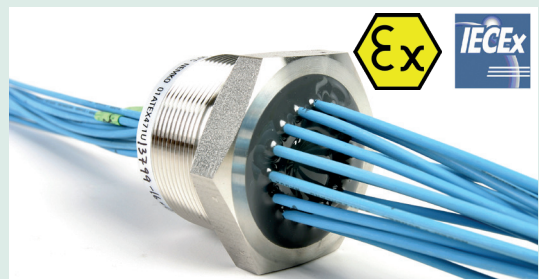
Up to 8-times longer lifetime

Thanks to e-beam cross-linked insulation, RADOX 125 has a lifetime 8 times longer than conventional 90 °C compounds. Even at high temperature, the core insulation will not become brittle and break, and so it will not need regular replacement.



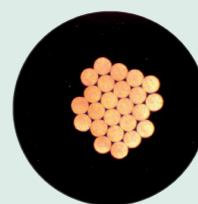
Compatibility and resistance

Due to the extremely durable core insulation material, RADOX 125 is ideal for special uses such as line bushing for Ex-proof applications. It provides excellent resistance against high and low temperatures as well as proven compatibility with epoxy resins.

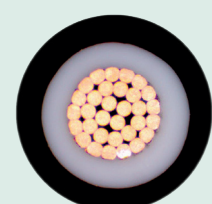


Easy processing & stripping

RADOX 125 is easy to process and strip. This greatly minimises the installation time and therefore reduces the associated costs compared to other cables on the market.



Competition



RADOX 125

Benefits for operators, EPCs and installers

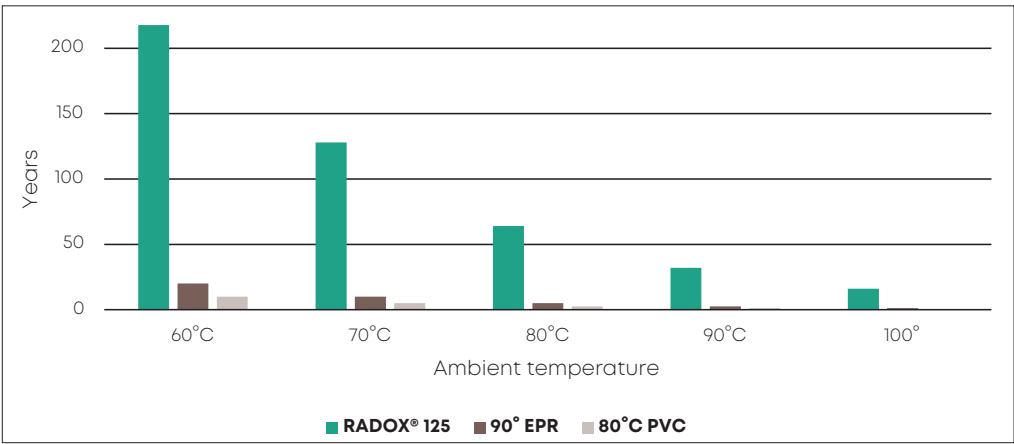
Longer operational lifetime and increased safety

Long lifetime

The RADOX® 125 offers superior operational lifetime, even in installations exposed to continuously high temperatures such as those found in arid regions or in steam process plants. Such conditions will quickly age standard non-cross-linked compounds, leading to regular and costly replacements.

A solid indication of the durability of the RADOX 125 is the Arrhenius temperature test, in accordance with IEC60216 standards (see Graph 1). Results show that at a constant temperature of 128 °C, the RADOX 125 can provide 20,000 hours of operation – a total of 2.5 years of continuous operation.

It's also worth noting that every 10 °C drop in temperature actually doubles the lifetime of the cable.



Graph 1: Arrhenius temperature test comparing the RADOX 125 against other standard cables

Expanded current capacity

Due to the robustness of its cross-linked insulation, the RADOX 125 can deliver expanded current capacity, thereby increasing the operational safety margin when compared to other cables on the market with the same cross-section diameter (see Table 1)

	Current capacity, single core, 45 °C amb. Temp.			correction factor at 80 °C	
	RADOX 125	EPR 90 °C*	Safety margin	RADOX 125	EPR 90 °C*
1.5 mm²	32.8A	23A	30 %	0.73	0.47
2.5 mm²	44.6A	30A	33 %		
4 mm²	60A	40A	33 %		
6 mm²	77.4A	52A	33 %		

* according to IEC 61892-4

Table 1: Comparison of current capacity of varying cable diameters.

Benefits for operators, EPCs and installers

Optimization through reduced cable size

Flexibility to use the safety margin for cable size reduction

The higher safety margin offered by the RADOX® 125 is a definite advantage in situations where space are critical - because it can deliver the same current capacity in a smaller diameter cable. For instance, the use of 1.5 mm² instead of 2.5 mm² to deliver 32.8 Amps.

This results in a reduction in weight, cabinet size and, most importantly, the CO₂ footprint.

Smaller cable diameter

Cable	Current	Size
Standard wire	40A	4 mm ²
EPR 90°C (IEC61892-4)	40A	4 mm ²
RADOX 125	44.6A	2.5 mm ²
	60A	4 mm ²

Reduced cable weight

RADOX 125	4 mm ²		2.5 mm ²	Reduction
Weight [kg/100m]	4.6	→	3	35 %
Diameter [mm]	3.95	→	3.35	15 %



Are your current cables still safe to use?

Obtain an IEC 60216 standard temperature comparison (a.k.a. the Arrhenius test) from your cable suppliers to find out the lifetime of the cables and under which safety parameters. Most cables on the market offer high temperature capability without addressing the operational lifetime.

Industry approved

“

We never skimp on quality, and thus have used RADOX® 125 in our cabinets for over 20 years now. There are cheaper alternatives in the market, but we have not found anything that can match the consistent quality, flexibility and small diameter of the RADOX 125.”



ELCOR is Scandinavia's largest supplier of electrical panels for power and control systems for offshore, maritime, residential and land-based industries.



Elcor supplies a variety of electrical panels for different applications. The flexible modular systems they have delivered combinations of include:

- **Main distribution boards**

- Sub-distribution boards
- UPS distribution boards
- Crane/winch control systems
- Starter panels
- Fire and Gas systems

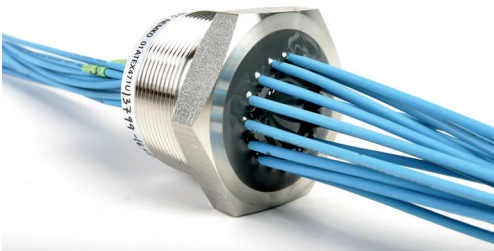
- HVAC control systems
- Cooling/heating systems
- Remote IO cabinets
- BOP/XMT crane-power and interface panels
- Drilling control cabinets
- Mud pump control

Industry approved

“
Safety is always priority number one on Oil & Gas platforms and FPSO's offshore. When using RADOX® 125 in cabinets and line-bushings, we know we use the best of the best wiring solutions in the market. Most cabinets on Norwegian Offshore platforms are wired with RADOX 125.”

BARTEC
BARTEC TECHNOR

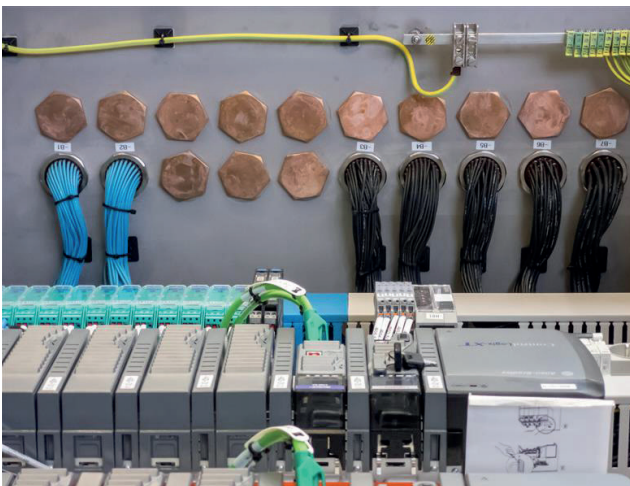
BARTEC TECHNOR AS is a part of the BARTEC Group, one of the world's leading solution providers of safety technology. BARTEC TECHNOR was established in 1983 in Stavanger, Norway, and is a recognised manufacturer of equipment and systems for use in hazardous areas.



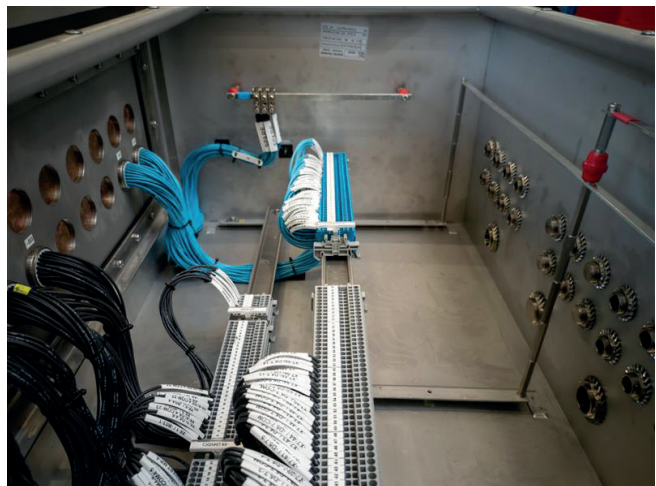
One of Bartec Technor's many products is line bushings - a component for the electrical connection between a flameproof "d" enclosure and an increased safety "e" terminal box. This must correspond to the EN 60079-0 and EN 60079-1 standards. Bartec Technor selected RADOX 125 due to its high flexibility characteristics and its excellent properties, which are compatible with epoxy resin.



Flameproof Ex d enclosure

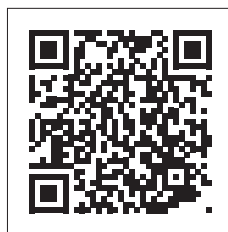


Ex e terminal box



Connecting – today and beyond

For more information, scan the QR
code below:



Homepage

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HUBER+SUHNER is certified according to ISO 9001, ISO 14001, OHSAS 18001,
EN(AS) 9100, IATF 16949 and ISO/TS 22163 – IRIS.

Waiver

Fact and figures herein are for information only and do not represent any warranty of any kind.