Shut off and just float.

Our PROTOLON Shore Connection cables will keep the ships sustainably energised.

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Environmental friendly feeding of docking vessels.

Our PROTOLON Shore Connection cables will keep the ships sustainably energised.

As you sit at the dock of the bay, watching the tide roll away, our PROTOLON SC cable will work hard to keep the vessels energised from the electrical grid while berthing. Instead of keeping the diesel engines running, the vessels get more sustainable energy while saving on fuel and reducing the carbon footprints. A win-win for everyone. Just lay back and breathe easily.

PROTOLON SC

Application

PROTOLON SC is the perfect choice for MV and LV connection systems to supply the ship with electrical power. The MV version also includes fibre optics for easy access to telecom networks. As PROTOLON SC is feeding the vessels with electricity and digital data, the diesel engines can be turned off to save on fuel and pollution. The cable is also suitable for permanent immersion in water.

MAIN FEATURES

- Compliant to international standard IEC/ISO/IEEE 80005
- Designed for reeling application and also suitable on semi-fixed systems
- Flexible and mechanically robust for high reliability
- Resistant to UV, ozone and moisture. Can be permanently immersed in water.
- Suitable for container ships, cruise vessels, RoRo and RoPax vessels
- Delivered with pre-mounted plugs or terminations on request

COMMITTED TO SUSTAINABILITY

Sustainable grids are key to reduce carbon footprints

The future development and integration of renewable energy sources will be key for our planet's sustainability. But there is more to it. Other aspects need to be considered to make a grid truly environmentally friendly. That is why our products are designed and created in compliance with international industry standards with the goal of improving environmental performance, cutting the use of harmful substances, reducing pollution and improving recyclability.

PROTOLON(SC) (N)TSKWOEU 0.6/1KV

Low voltage cable for Shore-Connection systems

PROTOLON(SC) (N)TSKWOEU 0.6/1kV	
Global data	
Brand	PROTOLON(SC)
Type designation	(N)TSKWOEU
Standard	Based on DIN VDE 0250-813 based on IEC/ISO/IEEE 80005-3
Construction characteristics	
Conductor	Bare copper, class 5
PE-Conductor	Bare copper, class 5
Insulation	Basic material EPR, type 3GI3, acc. to DIN VDE 0207 Part 20
Core identification	Natural coloured insulation with black numbering for power and control cores, earth conductors coloured in green-yellow
Inner sheath	Vulcanized rubber compound, basic material EPR
Inner sheath colour	Natural
Outer sheath	Abrasion and tear-proof high grade rubber compound
Outer sheath colour	Black
Electrical parameters	
Rated voltage	0.6/1 kV (600/1000V)
Max. permissible operating voltage AC	0.7/1.2 kV
Max. permissible operating voltage DC	0.9/1.8 kV
Current Carrying Capacity	According to DIN VDE 0298, Part 4

PROTOLON(SC) (N)TSKWOEU 0.6/1kV	
Chemical parameters	
Flame propagation	DIN EN 60332-1-2
Resistance to oil	Acc. to DIN EN 60811-404 and DIN VDE 0473-811-404, paragraph 10
Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture. Water resistant.
Thermal parameters	
Max. operating temperature of the conductor	90 °C
Max. short circuit temperature of the conductor	250 °C
Ambient temperature for fixed installation	Min -40 °C ; max +80 °C
Ambient temperature in fully flexible operation	Min -25 °C ; max +80 °C
Mechanical parameters	
Max. tensile load on the conductor	20 N/mm²
Max. tensile load on the conductor during acceleration	25 N/mm²
Bending radii min.	Acc. to DIN VDE 0298 part 3
Additional tests	Based on IEC/ISO/IEEE 80005-3

PROTOLON(SC) (N)TSKWOEU 0.6/1kV											
Number of cores x cross section	**Part number**	**Conductor diameter max. mm**	Outer diameter min. mm	Outer diameter max. mm	Bending radius free moving min. mm	Weight (approx.) kg/km	Permissible tensile force max. N	Dynamic tensile force max. N	Conductor resistance at 20 °C max. Ω/km	Current carrying capacity (1) A	**Short Circuit Current (conductor) kA**
3x185+2x95/2+ 1x(4x2,5)	20258591	18.6	63.9	67.9	340	9500	11100	13875	0.106	461	26.46

Special designs available upon request.

PROTOLON(SC) (N)TSCGEWOEU 6/10KV

Medium voltage cable for Shore-Connection systems

PROTOLON(SC) (N)TSCGEWOEU 6/10kV	
Global data	
Brand	PROTOLON(SC)
Type designation	(N)TSCGEWOEU
Standard	Based on DIN VDE 0250-813 based on IEC/ISO/IEEE 80005-1
Construction characteristics	
Conductor	Bare copper, class 5
PE-Conductor	Bare copper, class 5
Insulation	Basic material EPR, type 3GI3, acc. to DIN VDE 0207 Part 20
Core identification	Natural coloured insulation with black semiconductive layer
Optical fiber	Multi-mode G62.5
Core arrangement	Three core design laid around a central support element
Support element	Aramid yarns and rubber covering
Inner sheath	Vulcanized rubber
Outer sheath	Abrasion and tear-proof high grade rubber compound
Outer sheath colour	Bright red/red
Electrical parameters	
Rated voltage	6/10 kV
Max. permissible operating voltage AC	6.9/12 kV
Max. permissible operating voltage DC	9/18 kV
Current Carrying Capacity	According to DIN VDE 0298, Part 4

PROTOLON(SC) (N)TSCGEWOEU 6/10kV	
Chemical parameters	
Flame propagation	DIN EN 60332-1-2
Resistance to oil	Acc. to DIN EN 60811-404 and DIN VDE 0473-811-404, paragraph 10
Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture. Water resistant.
Thermal parameters	
Max. operating temperature of the conductor	90 °C
Max. short circuit temperature of the conductor	250 °C
Ambient temperature for fixed installation	Min -40 °C ; max +80 °C
Ambient temperature in fully flexible operation	Min -25 °C ; max +80 °C
Mechanical parameters	
Max. tensile load on the conductor	20 N/mm²
Max. tensile load on the conductor during acceleration	25 N/mm²
Bending radii min.	Acc. to DIN VDE 0298 part 3
Additional tests	Acc. to IEC/ISO/IEEE 80005-1

PROTOLON(SC) (N)TSCGEWOEU 6/10kV												
Number of cores x cross section	Part number	Conductor diameter max. mm	Earth conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius free moving min. mm	Weight (approx.) kg/km	Permissible tensile force max. N	Dynamic tensile force max. N	Conductor resistance at 20 °C max. Ω/km	Current carrying capacity (1) A	Short Circuit Current (conductor) kA
3x185+1x95+ 1x(5x2,5ST +4x3G62,5LWL)C	20129011	17.8	13	74	78	780	10850	11100	13875	0.106	461	26.46

Special designs available upon request.
(1) Nominal current carrying capacity for rubber cables laid on a surface, at 30°C ambient temperature (see also VDE 0298-4, Table 15).

Please check our homepage: www.prysmiangroup.de for more details.

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