

PROTOLON(ST) NTSCGEWOEU 6kV: Medium-Voltage Flexible Cables for Use In Water



Application

Power supply cable for use in water, e.g. for connection to dredgers, floating docks, pumps, etc., in applications where high mechanical stresses are to be expected. Also suitable for use in sewage, salt water and brackish water at water depths of up to 500 m.

Global data

Brand	PROTOLON(ST)
Type designation	NTSCGEWOEU
Standard	DIN VDE 0250-813
Certifications / Approvals	MSHA P-189-4 Fire Certificate of Russian Federation GOST K GOST B

Notes on installation

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Design features

Conductor	Electrolytic copper, tinned, finely stranded (class 5)
PE-Conductor	Split into 3 in the outer interstices.
Insulation	Basic material: EPR, Compound type: 3GI3
Electrical field control	Inner and outer layer of semiconductive rubber compound
Core identification	Natural colouring with black semiconductive rubber
Core arrangement	Three main conductor laid-up with protective-earth conductor split into 3 in the outer interstices
Inner sheath	EPR inner sheath with special characteristics with respect to water proofing and prevention of formation of water bubbles, Compound type: GM1B.
Outer sheath	Basic material: synthetic elastomer compound e.g. CM, particularly water-proof, Compound type: 5GM3, Color: Red

Electrical parameters

Rated voltage	3.6/6 kV
Maximum permissible operating voltage AC	4.2/7.2 kV
Maximum permissible operating voltage DC	5.4/10.8 kV
AC test voltage	11 kV

Chemical parameters

Resistance to fire	EN 60332-1-2; IEC 60332-1-2
Resistance to oil	EN 60811-404, IEC 60811-404
Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV, and moisture
Water resistance	EN 50525-2-21

Thermal parameters

Max. permissible temperature at conductor	90 °C
Max. short circuit temperature of the conductor	250 °C
Ambient temperature for fix installation min.	-40 °C
Ambient temperature for fix installation max.	80 °C
Ambient temp. in fully flex. operation min.	-25 °C
Ambient temp. in fully flex. operation max.	60 °C

Mechanical parameters

Max. tensile load of cable	15 N/mm ²
Torsional stress	100 °/m
Bending radii min.	Acc. to DIN VDE 0298 part 3

Number of cores x cross section	Part number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Net weight approx. kg/km	Permissible tensile force max. N	Conductor resistance at 20°C max. Ω/km	Nom. operating capacitance µF/km	Inductance nom. mH/km	Current carrying capacity (1) A	Short Circuit Current (conductor) kA
3x25+3x25/3	20004485	6.4	40.1	43.1	2620	1125	0.795	0.26	0.35	131	3.58
3x35+3x25/3	20040326	7.6	42.6	45.6	3060	1575	0.565	0.29	0.33	162	5.01
3x50+3x25/3	20004486	9	45.6	48.6	3680	2250	0.393	0.33	0.32	202	7.15
3x70+3x35/3		10.9	50.9	54.9	4950	3150	0.277	0.38	0.3	250	10.01
3x95+3x50/3		12.6	55.8	59.8	6000	4275	0.21	0.43	0.29	301	13.53
3x120+3x70/3	20058135	14.2	59.1	63.1	7070	5400	0.164	0.47	0.28	352	17.16
3x150+3x70/3		16	65.6	69.6	8470	6750	0.132	0.52	0.27	404	21.45
3x185+3x95/3		17.8	69.4	73.4	9850	8325	0.108	0.56	0.26	461	26.46
3x240+3x120/3		20.4	76.7	80.7	11500	10800	0.0817	0.63	0.25	544	34.32