

## PROTOLON(ST) NTSCGEWUEU 18/30 kV: 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	NTSCGEWUEU
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	18/30 kV
Max. permissible operating voltage AC	20.8/36 kV
Max. permissible operating voltage DC	27/54 kV
AC test voltage - main cores	43 kV ( Min.)
AC test voltage	43 kV

### Chemical parameters

Reaction 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 fixed installation	min -40 °C ; max +80 °C
Ambient temperature in fully flexible operation	min -25 °C ; max +60 °C

### Mechanical parameters

Max. tensile load on the conductor	15 N/mm <sup>2</sup>
Torsional stress +/-	100 °/m
Min. bending radius	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	Weight (approx.) kg/km	Conductor resistance at 20°C max. Ω/km	Nominal operating capacitance μF/km	Inductance nom. mH/km	Current carrying capacity (1) A	Short Circuit Current (conductor) max. (1s) kA
3x25+3x25/3		6.4	64.3	68.3	5650	0.795	0.14	0.46	138	3.58
3x35+3x25/3		7.6	66.9	70.9	6230	0.565	0.15	0.43	171	5.01
3x50+3x25/3		9	69.9	73.9	7030	0.393	0.16	0.41	214	7.15
3x70+3x35/3	20157145	10.9	75.7	79.7	8700	0.277	0.18	0.38	265	10.01
3x95+3x50/3	20157146	12.6	80	85	9920	0.21	0.2	0.37	321	13.53
3x120+3x70/3		14.1	83.2	88.2	11280	0.164	0.22	0.35	372	17.16
3x150+3x70/3	20157147	16	89.9	94.9	12920	0.132	0.23	0.34	428	21.45
3x185+3x95/3		17.8	93.7	98.7	14500	0.108	0.25	0.33	488	26.46
3x240+3x120/3		20.4	101	106	16500	0.0817	0.28	0.32	575	34.32