



**MS-TECWATER
(N)TSWÖU 3.6/6 kV**
Cable for Water Application

ENERGY



Technical Data

	Trademark	MS-TECWATER
	Type designation	(N)TSWÖU-J
	Specification	Design and tests according to Prysmian specification
	Application	<p>For making connections to electrical equipment used in a waste-water environment and subject to heavy mechanical stress, e.g. submersible pumps in sewage disposal and treatment as well as submersible mixer. Owing to the various (and frequently changing) substances of which the contaminated water is made up, the cables may be used only in easily accessible areas that can be inspected (installation depth of approximately 10 m, as customarily encountered in sewage water tanks).</p> <p>These cables are also suitable for use in process water, cooling water, mine surface water, rainwater and combined waste water. Under certain circumstances they can be suitable for groundwater and seawater; it is possible to impose less stringent specifications in terms of accessibility and inspection. In such cases the cables can be used at depths up to 500 m.</p> <p>If the water concerned is aggressive or composed of special substances, the cables resistance properties should be examined.</p> <p>These cables can be used indoors, outdoors, in explosion-hazard areas. In other respects, DIN VDE 0298-3 applies</p>
Electrical parameters	Rated voltage	$U_0/U = 3.6/6$ kV
	Maximum permissible operation voltage of plant and power system	<ul style="list-style-type: none"> - Single-phase and three-phase AC operation <li style="padding-left: 20px;">Line-Earth/ Line-Line 4.2/7.2 kV - DC operation <li style="padding-left: 20px;">Line-Earth/ Line-Line 5.4/10.8 kV
	AC test voltage	11 kV (test duration 5 min.)
	Current-carrying capacity	The values are valid for a multicore cable or three single-core cables in trefoil in permanent operation with DC or AC with 50 up to 60 Hz in air at 30 °C. In other respects, DIN VDE 0298-4 applies
Thermal parameters	Maximum permissible operating temperature of the conductor	90°C
	Maximum permissible short-circuit temperature at conductor	250°C (max. 5 s)
	Maximum permissible water temperature	40°C at higher water temperatures a shortened cable service life is to be expected.
	Minimum permissible temperatures	<ul style="list-style-type: none"> when in motion - 25°C when stationary - 40°C
Mechanical parameters	Tensile strength	max. 15 N/mm ² , see selection table
	Minimum bending radii	See selection table
Stability against other influences	Water resistance	Test according to DIN VDE 0282-16
	Oil resistance of outer sheath	Test according to DIN EN 60811-2-1
	Burning behaviour	Test according to DIN EN 60332-1-2



Design features

Conductor	Copper, plain, finely stranded, Class 5 according to DIN VDE 0295 / IEC 60228
Insulation	Ozone, water and weather resistant insulation compound, base EPR (Ethylene-Propylene Rubber); colour: light; PE conductor: green-yellow
Electrical field control	Inner layer of semiconductive rubber compound, colour: black
Sheath	2 layer sheath system: Inner layer: EPR special compound; colour: blue Outer layer: CPE special compound; water and oil resistant; colour: black
Marking	(Year of manufacture) (serial number) MS-TECWATER (N)TSWÖU-J 3X16/16 3.6/6 kV

Selection and ordering data

Number of cores and nominal cross-sectional area mm ²	Order-No.	Conductor diameter	Overall diameter of cable	Overall diameter of cable	Minimum bending radii (fixed installation)	Minimum bending radii (free movement and entry)	Approx. net weight for 1000 m	Tension force	Current-carrying capacity at 30°C, touching surfaces, at 30 °C, 3 cores loaded
		guidance value mm	Min. value mm	Max. value mm	mm	mm	kg	Max. value N	A

MS-TECWATER (N)TSWÖU-O 3.6/6 single-core

1 x 16	5DK3 130	5,6	15,7	17,2	103	172	390	240	103
1 x 25	5DK3 131	6,4	16,5	18,0	108	180	480	375	137
1 x 35	5DK3 132	7,6	17,7	19,2	115	192	600	525	169
1 x 50	5DK3 133	9,0	19,1	20,6	124	206	750	750	211
1 x 70	5DK3 134	10,8	21,7	23,2	139	232	1010	1050	261

MS-TECWATER (N)TSWÖU-O 3.6/6 kV three-cores, without PE conductor

3 x 16	5DK3 137	5.7	29.1	32.1	193	321	1330	720	99
3 x 25	5DK3 138	6.4	31.8	34.8	209	348	1710	1125	131
3 x 35	5DK3 139	7.6	34.4	37.4	224	374	2120	1575	162
3 x 50	5DK3 140	9.1	38.8	41.8	251	418	2790	2250	202
3 x 70	5DK3 141	10.8	42.5	45.5	273	455	3550	3150	250

MS-TECWATER (N)TSWÖU-J 3.6/6 kV three cores, with PE conductor

3 x 16 / 16	5DK3 147	5.7	33.3	36.3	218	363	1730	960	99
3 x 25 / 25	5DK3 148	6.4	35.0	38.0	228	380	2110	1500	131
3 x 35 / 35	5DK3 149	7.6	39.1	42.1	252	421	2730	2100	162
3 x 50 / 50	5DK3 150	9.1	42.7	45.7	274	457	3470	3000	202
3 x 70 / 70	5DK3 151	10.8	46.8	49.8	299	498	4450	4200	250

MS-TECWATER (N)TSWÖU-J 3.6/6 kV three cores, with divided PE conductor

3 x 25 + 3 x 25/3	5DK3 156	6.4	31.8	34.8	209	348	1860	1125	131
3 x 35 + 3 x 25/3	5DK3 157	7.6	34.4	37.4	224	374	2260	1575	162
3 x 50 + 3 x 25/3	5DK3 158	9.1	38.8	41.8	251	418	2930	2250	202
3 x 70 + 3 x 35/3	5DK3 159	10.8	42.5	45.5	273	455	3770	3150	250

Technical data, dimension and weights are subject to change.
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