



CORDAFLEX(SMK)

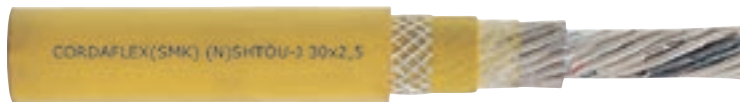
(N)SHTÖU Low Voltage Reeling Cable

ENERGY



Technical Data

	Type	CORDAFLEX(SMK)
	Type designation	(N)SHTÖU-J/-O
	Approvals/standards	DIN VDE 0250, Part 814; VDE-Reg.-Nr. 7519; GOST R
	Application	Flexible reeling cable for very high mechanical stresses. Also for applications to which DIN VDE 0168 and 0118 apply: Open-cast and underground mining.
Electrical parameters	Rated voltage	$U_0 / U = 0.6/1 \text{ kV}$
	Maximum permissible operating voltage in AC systems	$U_0 / U = 0.7/1.2 \text{ kV}$
	Maximum operating voltage in DC systems	$U_0 / U = 0.9/1.8 \text{ kV}$
	AC test voltage	
	- Power cores	3.5 kV, 5 min
	- Control cores	3.5 kV, 5 min
	Current-carrying capacity	According to DIN VDE 0298, Part 4
	Bus compatibility	with special elements: ASI-Bus, Profibus, CAN-Bus, Industrial Ethernet alternativ: Fibre optics for transmitting all bus protocols
	EMC	Assured as result of special cable design
Thermal parameters	Ambient temperature	
	- Fully flexible operation	- 35 °C to + 80 °C
	- Fixed installation	- 50 °C to + 80 °C
	Maximum permissible operating temperature of the conductor	90 °C
	Short-circuit temperature of the conductor	250 °C
Mechanical parameters	Tensile load	Up to 30 N/mm ²
	Torsional stresses	+/- 50 °/m
	Minimum bending radii	According to DIN VDE 0298, Part 3
	Minimum distance with S-type directional changes	20 x D
	Travel speed	
	- Gantry (reeling operation)	No restriction. It is recommended to consult the manufacturer for speeds beyond 240m/min
	- Trolley (festoon operation)	Up to 240 m/min
	Additional tests	Reserved bending test, roller bending test, torsional stress test
Chemical parameters	Resistance to oil	DIN VDE 0473, Part 811-2-1, Para. 10
	Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture
	Water compatibility	Given and verified in long-term tests



Design features

Type	CORDAFLEX(SMK)
Conductor	Electrolytic copper tinned, very finely stranded class FS
Insulation	PROTOLON MS Special compound based on high-quality EPR (> 3GI3); Improved mechanical and electrical characteristics
Shield for individually shielded cores and twisted and shielded pairs	Braid screen made of tinned copper wires. Transfer impedance optimized at 30 MHz. Surface covered: at least 60 % for shielded cores at least 80 % for twisted and shielded pairs
Core identification	best identification as a result of light colored insulation with numbers printed in black for power and control cables, earth conductor green-yellow colored
Core arrangement	Laid-up in a maximum of 3 layers
Sheath system	- PROTOFIRM Special: Inner sheath high grade special compound based on PCP, color: yellow - Anti-torsion braid Reinforced braid made of polyester threads, in a vulcanized bond between the sheaths. Resulting in a high strength of the sheath system. - PROTOFIRM special: outer sheath A sheath system with a unique combination of flexibility and robustness has been achieved through the use of this structure. Abrasion and tear resistant special rubber compound based on PCP, color: yellow.
Marking	CORDAFLEX(SMK) (N)SHTÖU -J/-O (number of cores) x (cross section)

Selection and ordering data

Number of cores and nominal cross-section		Main conductor diameter	Overall diameter of cable Min. value	Overall diameter of cable Max. value	Approx. net weight for 1000 m	Maximum permissible tensile force
* stock items		[mm]	[mm]	[mm]	[kg/km]	[N]

(N)SHTÖU-J power cables, five-core design

5x 4		3.0	17.4	19.4	430	600
5x 6*		3.6	19.0	21.0	690	900
5x10*		4,6	23,4	25,4	1080	1500
5x16*		5,6	26,1	29,1	1500	2400
5x25		7,3	34,7	37,7	2350	3750

(N)SHTÖU-J power cables, four-core design

4x 4*		3.0	16.0	18.0	455	480
4x 6*		3.6	17.4	19.4	575	720
4x10*		4,6	21,6	23,6	905	1200
4x16*		5,6	23,7	26,7	1240	1920
4x25*		7,3	28,5	31,5	1850	3000

(N)SHTÖU-J power cables, three-core design, earth conductor splitted into three parts

3x 35+3x 16/3*		8.4/3.5	28.5	31.5	2160	3150
3x 50+3x 25/3*		10.3/4.2	34.4	37.4	2850	4500
3x70+3x35/3*		12,0/5,0	39,7	42,7	3920	6300
3x95+3x50/3*		14,0/6,0	44,3	47,3	4960	8550
3x120+3x70/3*		15,8/7,2	51,0	55,0	6630	10800
3x150+3x70/3*		17,5/7,2	53,9	57,9	7560	13500
3x185+3x95/3*		19,4/8,1	58,9	62,9	9310	16650
3x240+3x120/3*		22,5/9,3	67,4	71,4	12200	21600

(N)SHTÖU-J control cables

4x 1.5		1.6	12.2	13.8	240	180
5x 1.5*		1.6	13.0	14.6	280	225
7x1,5*		1,6	15,2	17,2	385	315
12x1,5*		1,6	21,4	23,4	710	540
18x1,5*		1,6	21,3	23,3	760	810
24x1,5*		1,6	23,8	26,8	990	1080
30x1,5		1,6	26,6	29,6	1220	1350
36x1,5		1,6	26,5	29,5	1260	1620
44x1,5		1,6	29,5	32,5	1530	1980
56x1,5		1,6	34,9	37,9	2050	2520
3x2,5*		2,0	12,7	14,3	280	225
4x2,5*		2,0	13,2	14,8	305	300
5x2,5		2,0	14,2	15,8	355	375
7x2,5*		2,0	16,6	18,6	510	525
12x2,5*		2,0	23,4	25,4	920	900
18x2,5*		2,0	23,3	25,3	1005	1350
24x2,5*		2,0	26,2	29,2	1320	1800
30x2,5*		2,0	29,4	32,4	1660	2250
36x2,5*		2,0	29,3	32,3	1720	2700
44x2,5*		2,0	34,1	37,1	2230	3300
56x2,5		2,0	40,1	43,1	2940	4200

Selection and ordering data

Number of cores and nominal cross-section		Main conductor diameter	Overall diameter of cable Min. value	Overall diameter of cable Max. value	Approx. net weight for 1000 m	Maximum permissible tensile force
* stock items		[mm]	[mm]	[mm]	[kg/km]	[N]

(N)SHTÖU-O bus cables

3x (2x 1)C*		1.3	22.0	24.0	755	180
6x (2x 0.5)C*		0.9	23.1	25.1	885	360
6x(2x1)C*		1,3	28,9	31,9	1330	360
12x(2x1)C*		1,3	38,9	40,9	2170	720
12x1 (C)		1,3	22,9	25,9	865	360

(N)SHTÖU-J combined control cables

12x 2.5 + 12x 1(C)*		2.0/1.3	26.2	29.2	1230	900
19x 2.5 + 5x 1(C)*		2.0/1.3	26.2	29.2	1290	1575
25x2,5+5x1(C)*		2,0/1,3	29,4	32,4	1620	2025

Special designs on request!