

CORDAFLEX(S) NSHTOEU 1kV: LHD-Cables For Scoop Operations



Application

For frequently changing dynamic loads, such as reeling cables for scoops (LHDs) in underground mines, suitable for mono-spiral reels and cylindrical reels.

Global data

Brand	CORDAFLEX(S)
Type designation	NSHTOEU
Standard	DIN VDE 0250-814
Certifications / Approvals	MSHA P-189-3 Fire Certificate of Russian Federation TR-Certificate GOST K GOST B

Design features

Conductor	Electrolytic copper, tinned, very finely stranded (class FS)
PE-Conductor	Green-yellow core
Insulation	Basic material: EPR, Compound type: 3GI3
Core identification	Black, Grey, Brown, Green-Yellow
Core arrangement	Cores laid-up, length of lay 5 x D
Support element	Centrally arranged Kevlar central support element
Inner sheath	Compound type: 5GM5, Color: Yellow
Reinforcement	Reinforced braid of polyester threads in a vulcanized bond between inner and outer sheath, Surface covered: approx. 25%
Outer sheath	Basic material: synthetic elastomer compound e.g. CR, Compound type: 5GM5, Color: Yellow

Electrical parameters

Rated voltage	U ₀ /U = 0,6/1 kV, also permitted for U ₀ /U = 640/1140V
Maximum permissible operating voltage AC	0.7/1.2 kV
Maximum permissible operating voltage DC	0.9/1.8 kV
AC test voltage	2.5 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

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

Tensile load on the conductor max .	30 N/mm ²
Torsional stress	25 °/m
Bending radii min.	Acc. to DIN VDE 0298 part 3
Minimum distance with S-type directional changes	20 x Cable Diameter
Travel speed	max. 160 m/min
Additional tests	Reversed bending test, roller bending test

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
4 x 16 (6 kN)		5.8	28	31	1450	1920	1.24	0.5	0.3	99	2.29
4 x 25 (6 kN)	20041914	7.3	34	37	2170	3000	0.795	0.54	0.29	131	3.58
4 x 35 (12 kN)	20151818	8.4	38	41	2930	4200	0.565	0.6	0.28	162	5.01
4 x 50 (12 kN)		10.3	44.8	47.8	4000	6000	0.393	0.62	0.27	202	7.15
4 x 50 (30 kN)	20004210	10.3	42	44	3560	6000	0.393	0.62	0.27	202	7.15
4 x 70 (20 kN)	20004222	12	48.3	51.3	4910	8400	0.277	0.71	0.26	250	10.01
4 x 95 (30 kN)	20004219	14	51	53	5870	11400	0.21	0.72	0.26	301	13.59