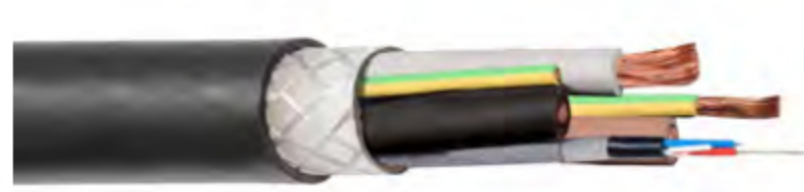
TROMMELFLEX (KSM-S) (N)SHTOEU:

low voltage reeling cables for E-RTG’s





Application

Flexible low voltage reeling cable for power supply (also with integrated fiber optics), suitable for application under high mechanical stresses. The main application is reeling operation on ERTG's (Electrified Rubber Tyred Gantry cranes).

Global data

Brand	TROMMELFLEX KSM-S
Type designation	(N)SHTOEU-J/-O
Standard	Based on DIN VDE 0250-814

Design features

Conductor	Plain copper, flexible class 5 acc. to DIN EN 60228 / DIN VDE 0295
Insulation	Rubber compound type 3GI3 acc. to DIN VDE 0207-20
Core identification	Acc. to DIN VDE 0293-308
Optical Fiber	12 fibers, 50/125µ or 62.5/125µ or E9/125µ, within protection jacket.

Fibre class:	G50/125µm	G62,5/125µm	E9/125µm
Type:	Graded-index fibre	Graded-index fibre	Monomode fibre
- Attenuation at 850 nm:	<2,8 dB/km	<3,3 dB/km	-
- Attenuation at 1300 nm:	<0,8 dB/km	<0,9 dB/km	<0,4 dB/km
- Attenuation at 1550 nm:	-	-	<0,3 dB/km
- Bandwidth at 850 nm:	>400 MHz	>200 MHz	-
- Bandwidth at 1300 nm:	>1200 MHz	>500 MHz	-
- Numerical aperture:	0,2 ± 0,02	0,27 ± 0,02	-
- Chromatic dispersion at 1300 nm:	-	-	<3,5 ps/nm km
- Chromatic dispersion at 1550 nm:	-	-	<18 ps/nm km

Core arrangement	Cores laid up with short length of lay. Split earth conductor and optical element positioned in the interstices.
Inner sheath	Rubber compound type 5GM3 acc. to DIN VDE 0207-21
Reinforcement	Wide- meshed polyester braid, embedded in the sheath
Outer sheath	Extruded rubber compound type 5GM5 acc. to DIN VDE 0207-21. Abrasion and tear resistant, oil and flame resistant; Colour: black
Marking	White imprint: TROMMELFLEX KSM-S (N)SHTOEU-J (number of cores) x (cross-section) (week/year)

Electrical parameters

Rated voltage	0.6/1 kV (600/1000V)
Max. permissible operating voltage AC	0.7/1.2 kV
Max. permissible operating voltage DC	0.9/1.8 kV
AC Test Voltage	4 kV (5 Min.)
Data transmission	Fibre-optic element for trouble free data transmission
Current Carrying Capacity description	Acc. to DIN VDE 0298-4

Chemical parameters

Resistance to fire	Acc. to IEC 60332-1 (EN 50265-2-1)
Resistance to oil	Acc. to EN 60811-404 - ASTM No. 2: 24h at 100 °C

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 -40 °C ; max +80 °C

Mechanical parameters

Max. tensile load on the conductor	20 N/mm²
Torsional stress	± 50 °/m
Min. bending radius	Acc. to DIN VDE 0298 part 3
Min. distance with S-type directional changes	20 X D
Travel speed	- Reeling operation: up to 180m/min

FEICHUN SPECIAL CABLES

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Number of cores x cross section		Conduc-tor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius free moving min. mm	Weight (ca.) kg/km	Permis-sible tensile force max. N	Con-ductor resis-tance at 20°C max. Ω/km	Current carrying capacity (1) A	Short Circuit Current (conduc-tor) kA
(N)SHTOEU-J power cables, 3-core design, earth conductor splitted in three										
3x50+3x25/3		9.6	34	37	185	2550	3000	0.39	202	7.15
3x95+3x50/3		12.6	43	46	230	4340	5700	0.21	301	13.59
3x70+3x35/3		11.1	40	43	215	3460	4200	0.27	250	10.01
3x120+3x70/3		14.8	51	56	280	5630	7200	0.16	352	17.16
3x150+3x70/3		16	52	56	280	6500	9000	0.13	404	21.45
3x185+3x95/3		17.7	56	61	305	7910	11100	0.11	461	26.46
3x240+3x120/3		20.2	64	70	350	10380	14400	0.08	540	34.32
3x300+3x150/3		22.7	70	76	380	13220	18000	0.06	620	42.9
3x400+3x240/3		27	82	88	440	20750	24000	0.05	715	57.2
(N)SHTOEU-J power cables, 3-core design with FO, earth conductor splitted in two										
3x35 + 2x16/2 + 12LWL		7.8	33.5	36.5	183	2110	2100	0.55	162	5.01
3x50 + 2x25/2 + 12G62,5		9	39.5	42.5	213	2910	3000	0.39	202	7.15
3x70 + 2x35/2 + 12LWL		11.1	40	43	215	3380	4200	0.27	250	10.01
3x95 + 2x50/2 + 12LWL		12.6	43	46	230	4230	5700	0.21	301	13.59
3x120 + 2x70/2 + 12G62,5		14.8	48.5	52.5	263	5650	7200	0.16	352	17.16
3x150 + 2x70/2 + 12G62,5		16	54	58	290	6570	9000	0.13	404	21.45
3x185 + 2x95/2 + 12G62,5		17.7	56	61	305	8010	11100	0.11	461	26.46
3x240 + 2x120/2 + 12G62,5		20.2	64	70	350	9980	14400	0.08	540	34.32
3x300 + 2x150/2 + 12LWL		22.7	70	76	380	12560	18000	0.06	620	42.9

(1) Nominal current carrying capacity for rubber cables laid on a surface, at 30°C ambient temperature (see also VDE 0298-4, Table 15).
For articles without part number the values shown are approximate, and need to be confirmed in case of order.

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