SPREADERFLEX 3GSLTOE 0.6/1 kV: spreader cables for basket operation

Application

Feeder cable for load-lifting equipment, e.g. spreader with high mechanical stress in gravity-fed collector basket operation, with voltage rate up to 0,6/1 kV. Suitable for operation in cold environment.

Global data

Brand	SPREADERFLEX
Type designation	3GSLTOE-J/-O
Standard	based on DIN VDE 0250
Certifications / Approvals	GOST-R

Notes on installation

Notes on installation	Cable must be laid into the basket in a counter-clockwise direction; detailed installation instructions available upon request.

Design features

Conductor	Bare Electrolytic copper, extremely fine stranded, class FS
Insulation	Special EPR compound based on type 3GI3 acc. DIN VDE 0207; for application in ambient temperatures down to -40°C
Core identification	Optimal identification as a result of light colored insulation with numbers printed in black; protective earth conductor green/yellow
Individual screen	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 pairs
Core arrangement	Core assembly: cores laid-up into bundles; Bundle assembly: bundles laid-up around the central support element.
Support element	Aramide threads woven round lead ball cords, arranged centrally. The breaking load is rated to provide a safety factor of 5 when the cable is suspended vertically for 50 m. In case of bigger cross-section and higher number of cores, the support element is a round rubber filler with Aramid threads.
Outer sheath	Special PUR compound; Colour: black
Marking	SPREADERFLEX 3GSLTOE-J (number of cores) x (cross-section)

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	3.5 kV (5 Min.)
Data transmission	With special bus elements: ASI-Bus, Profibus or use of fibre optics elements for trouble-free data transmission.
Current Carrying Capacity description	According to DIN VDE 0298, Part 4

Chemical parameters

Resistance to oil	Acc. to DIN EN 60811-404; DIN VDE 0473-811-404, paragraph 10
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 fixed installation	min -50 °C ; max +80 °C
Ambient temperature in fully flexible operation	min -40 °C ; max +80 °C

Prysmian Kabel und Systeme GmbH
Alt Moabit 91D, 10559 Berlin
phone: +49 30 3675 40
email: kontakt@prysmiangroup.com

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Mechanical parameters

Max. tensile load	Increased tensile load through addtional support element
Torsional stress	Designed for best torsional properties according to the corresponding application
Min. bending radius	Acc. to DIN VDE 0298 part 3
Travel speed	Hoist: up to 160 m/min
Basket design	Dimensions depending on system (e.g. dependent on space requirements, hoisting height and speed, wind load). Recommended: basket diameter min. 30xD; basket height approx. 45xD (where D = cable diameter).

Prysmian Kabel und Systeme GmbH
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email: kontakt@prysmiangroup.com

Number of cores x cross section	Part number	MLFB Number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius free moving min. mm	Weight (ca.) kg/km	Conductor resistance at 20°C max. Ω/km	Current carrying capacity (1) A	Short Circuit Current (conductor) kA
3GSLTOE-J control cables										
48x1	20153609	5DE5697	1.3	31.1	34.1	171	2340	19.5	18	0.14
24x2,5	20153610	5DE5625	2	29.1	32.1	161	1780	7.98	30	0.36
30x2,5	20157101	5DE5698	2	31.1	34.1	171	2260	7.98	30	0.36
36x2,5	20157102	5DE5688	2	34.5	37.5	188	2780	7.98	30	0.36
42x2,5	20157103	5DE5690	2	36.8	39.8	199	3490	7.98	30	0.36
48x2,5	20157104	5DE5660	2	41.3	44.3	222	4040	7.98	30	0.36
54x2,5	20156743	5DE5667	2	45.5	48.5	243	3890	7.98	30	0.36
24x3,5	20157105	5DE5678	2.4	32	35	175	2350	5.55	39	0.5
30x3,5	20157106	5DE5680	2.4	34.3	37.3	187	2970	5.55	39	0.5
36x3,5	20157107	5DE5681	2.4	37.9	40.9	205	3750	5.55	39	0.5
42x3,5	20157108	5DE5685	2.4	42.4	45.4	227	4510	5.55	39	0.5
7x4	20157109	5DE5668	3	18.1	20.1	101	670	4.95	41	0.57
3GSLTOE-J control cables with bus element										
24x2,5+1x(2x1)C	20167170	5DE5654	2	31.1	34.1	171	2200	7.98	30	0.36
24x2,5+4x(2x1)C	20161731	5DE5661	2	41.2	44.2	221	3600	7.98	30	0.36
36x2,5+2x(2x1)C	20161565	5DE5657	2	41.3	44.3	222	3830	7.98	30	0.36
42x2,5+2x(2x1)C	20057241	5DE5732	2	43.5	46.5	233	3600	7.98	30	0.36
3GSLTOE-J control cables with integrated FO										
24x2,5+6x(1G62,5)	20006901	5DE5747	2	35.6	38.6	193	2400	7.98	30	0.36
24x2,5+12x(1G62,5	20166384	5DE5635	2	34.5	37.5	188	2530	7.98	30	0.36
30x2,5+6x(1G62,5)	20157411	5DE5675	2	34.5	37.5	188	2660	7.98	30	0.36
32x2,5+4x(3E9)	20160402	5DE5***	2	35.1	38.1	191	2700	7.98	30	0.36
36x2,5+6X(1G62,5)	20166382	5DE5658	2	36.8	39.8	199	3360	7.98	30	0.36
36x2,5+6X(2G62,5)	20164200	5DE5641	2	36.8	39.8	199	3360	7.98	30	0.36
36x2,5+6X(2G50)	20161440	5DE5640	2	36.8	39.8	199	3360	7.98	30	0.36
42x2,5+6x(1G62,5)	20160680	5DE5648	2	41.3	44.3	222	3910	7.98	30	0.36
42x2,5+6x(2G62,5)	20155769	5DE5650	2	41.3	44.3	222	3910	7.98	30	0.36
42x2,5+6x(2G50)	20161435	5DE5***	2	41.3	44.3	222	3910	7.98	30	0.36
42x2,5+6x(2E9)	20163163	5DE5***	2	41.3	44.3	222	3910	7.98	30	0.36
42x2,5+6x(3E9)	20158105	5DE5***	2	41.3	44.3	222	3910	7.98	30	0.36
48x2,5+6x(2G62,5)	20157110	5DE5649	2	45.5	48.5	243	3790	7.98	30	0.36
48x2,5+6x(2G50)	20156746	5DE5***	2	45.5	48.5	243	3790	7.98	30	0.36
48x2,5+6x(2E9)	20166654	5DE5642	2	45.5	48.5	243	3790	7.98	30	0.36
48x2,5+6x(3G62,5)	20160143	5DE5643	2	45.5	48.5	243	3790	7.98	30	0.36
50x2,5+4x(3G50)	20157798	5DE5***	2	45.5	48.5	243	3900	7.98	30	0.36
42x3,5+6x(1G62,5)	20162021	5DE5653	2.4	48.1	51.1	256	4150	5.55	39	0.5
3GSLTOE-O AWG control cables										
20x12AWG	20164631	5DE5694	2.4	30.2	33.3	167	1910	5.75	39	0.43
24x12AWG	20160976	5DE5695	2.4	31.6	34.6	173	2360	5.75	39	0.43
30x12AWG	20164632	5DE5693	2.4	34.4	37.4	187	2770	5.75	39	0.43
36x12AWG	20164633	5DE5696	2.4	38.1	41.1	206	3730	5.75	39	0.43
42x12AWG	20154751	5DE5692	2.4	42.4	45.4	227	4500	5.75	39	0.43

Prysmian Kabel und Systeme GmbH
Alt Moabit 91D, 10559 Berlin
phone: +49 30 3675 40
email: kontakt@prysmiangroup.com

Number of cores x cross section	Part number	MLFB Number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius free moving min. mm	Weight (ca.) kg/km	Conductor resistance at 20°C max. Ω/km	Current carrying capacity (1) A	Short Circuit Current (conductor) kA
3GSLTOE-O AWG control cables with integrated FO										
20x12AWG +4x1LWL	20164634	5DE5676	2.4	32	35	175	2330	5.75	39	0.43
32x12AWG +4x1LWL	20164635	5DE5686	2.4	38.9	41.9	210	3740	5.75	39	0.43
36x12AWG +6x1LWL	20164636	5DE5671	2.4	43.4	46.4	232	4740	5.75	39	0.43
38x12AWG +4x(1G62,5)	20162022	5DE5673	2.4	42.4	45.4	227	4370	5.75	39	0.43
38x12AWG +4x3LWL	20164637	5DE5699	2.4	42.4	45.4	227	4370	5.75	39	0.43

(1) Nominal current carrying capacity for rubber cables laid on a surface, at 30°C ambient temperature (see also VDE 0298-4, Table 15).
Special designs upon request!

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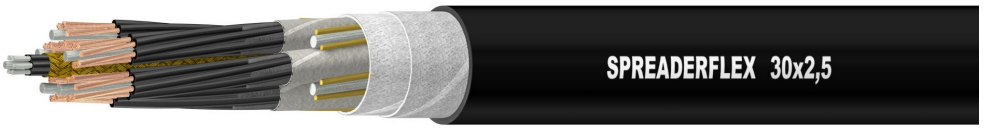
email: kontakt@prysmiangroup.com

SPREADERFLEX SYSLTOE 0,6/1 kV
Spreader cables for basket operation



Application

Feeder cable for load-lifting equipment, e.g. spreader with high mechanical stress in gravity-fed collector basket operation, with voltage rate up to 0,6/1 kV. Suitable for operation in cold environment.

Global data

Brand	SPREADERFLEX
Type designation	SYSLTOE-J/-O
Standard	based on DIN VDE 0250
Certifications / Approvals	EAC Certificate

Notes on installation

Notes on installation	Cable must be laid into the basket in a counter-clockwise direction; detailed installation instructions available upon request.

Design features

Conductor	Bare Electrolytic copper, extremely fine stranded, class FS
Insulation	Special Thermoplastic compound for application in ambient temperatures down to -40°C
Core identification	Optimal identification as a result of light colored insulation with numbers printed in black; protective earth conductor green/yellow
Individual screen	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 pairs

Optical fiber properties

Fiber type	G62,5/125µm Multi-mode graded index	G50/125µm Multi-mode graded index	E9/125µm Single-mode step index
Core diameter	62,5µm	50µm	9µm
Cladding diameter	125µm	125µm	125µm
Fiber diameter	250µm	250µm	250µm
Attenuation at 850nm	< 3,3dB/km	< 2,8dB/km	
Attenuation at 1310nm	< 0,9dB/km	< 0,8dB/km	< 0,4dB/km
Attenuation at 1550nm			< 0,3dB/km
Bandwidth at 850nm	> 400MHz	> 400MHz	
Bandwidth at 1310nm	> 600MHz	> 1200MHz	
Numerical Aperture	0,275 +/- 0,02	0,2 +/- 0,02	0,14 +/- 0,02
Chromatic Dispersion at 1300nm			< 3,5ps/nm km
Chromatic Dispersion at 1550nm			< 18ps/nm km

Core arrangement	Core assembly: cores laid-up into bundles; Bundle assembly: bundles laid-up around the central support element.
Support element	Aramide threads woven round lead ball cords, arranged centrally. The breaking load is rated to provide a safety factor of 5 when the cable is suspended vertically for 50 m. In case of bigger cross-section and higher number of cores, the support element is a round rubber filler with Aramid threads.
Outer sheath	Special PUR compound; Colour: black

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 - main cores	3.5 kV (5 Min.)
AC test voltage - control cores	1 kV
Data transmission	With special bus elements: ASI-Bus, Profibus or use of fibre optics elements for trouble-free data transmission.
Current Carrying Capacity description	According to DIN VDE 0298, Part 4

Prysmian Kabel und Systeme GmbH
Alt Moabit 91D, 10559 Berlin
phone: +49 30 3675 40
email: kontakt@prysmiangroup.com

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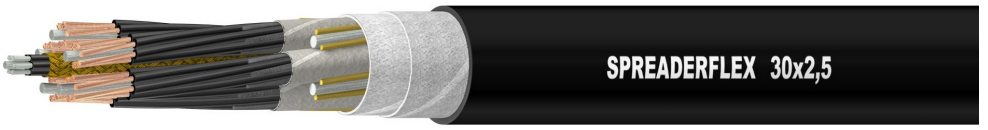

Chemical parameters

Resistance to oil	Acc. to DIN EN 60811-404; DIN VDE 0473-811-404, paragraph 10
Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture.

Thermal parameters

Max. operating temperature of the conductor	90 °C
Max. short circuit temperature of the conductor	250 °C
Ambient temperature for fixed installation	min -50 °C ; max +80 °C
Ambient temperature in fully flexible operation	min -40 °C ; max +80 °C

Mechanical parameters

Max. tensile load	Increased tensile load through addtional support element
Bending radii min.	Acc. to DIN VDE 0298 part 3
Travel speed	Hoist: up to 160 m/min
Basket design	Dimensions depending on system (e.g. dependent on space requirements, hoisting height and speed, wind load). Recommended: basket diameter min. 30xD; basket height approx. 45xD (where D = cable diameter).

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Number of cores x cross section	Part number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius free moving min. mm	Weight (approx.) kg/km	Permissible tensile force max. N	Conductor resistance at 20°C max. Ω/km	Current carrying capacity (1) A	Short Circuit Current (conductor) kA
24x2,5+1x(12G62,5LWL)		2	31.1	34.1	171	2200	900	7.98	30	0.36
24x2,5+1x(12G50LWL)		2	31.1	34.1	171	2200	900	7.98	30	0.36
24x2,5+1x(12E9LWL)		2	31.1	34.1	171	2200	900	7.98	30	0.36
24x2,5+1x(18G62,5LWL)		2	31.1	34.1	171	2200	900	7.98	30	0.36
24x2,5+1x(18G50LWL)		2	31.1	34.1	171	2200	900	7.98	30	0.36
24x2,5+1x(18E9LWL)		2	31.1	34.1	171	2200	900	7.98	30	0.36
30x2,5+1x(12G62,5LWL)		2	34.5	37.5	188	2700	1125	7.98	30	0.36
30x2,5+1x(12G50LWL)		2	34.5	37.5	188	2700	1125	7.98	30	0.36
30x2,5+1x(12E9LWL)		2	34.5	37.5	188	2700	1125	7.98	30	0.36
30x2,5+1x(18G62,5LWL)		2	34.5	37.5	188	2700	1125	7.98	30	0.36
30x2,5+1x(18G50LWL)		2	34.5	37.5	188	2700	1125	7.98	30	0.36
30x2,5+1x(18E9LWL)		2	34.5	37.5	188	2700	1125	7.98	30	0.36
36x2,5+1x(12G62,5LWL)	20349161	2	36.8	39.8	199	3350	1350	7.98	30	0.36
36x2,5+1x(12G50LWL)		2	36.8	39.8	199	3350	1350	7.98	30	0.36
36x2,5+1x(12E9LWL)		2	36.8	39.8	199	3350	1350	7.98	30	0.36
36x2,5+1x(18G62,5LWL)		2	36.8	39.8	199	3350	1350	7.98	30	0.36
36x2,5+1x(18G50LWL)		2	36.8	39.8	199	3350	1350	7.98	30	0.36
36x2,5+1x(18E9LWL)		2	36.8	39.8	199	3350	1350	7.98	30	0.36
42x2,5+1x(12G62,5LWL)	20313288	2	41.3	44.3	222	4090	1575	7.98	30	0.36
42x2,5+1x(12G50LWL)	20316179	2	41.3	44.3	222	4090	1575	7.98	30	0.36
42x2,5+1x(12E9LWL)		2	41.3	44.3	222	4090	1575	7.98	30	0.36
42x2,5+1x(18G62,5LWL)		2	41.3	44.3	222	4090	1575	7.98	30	0.36
42x2,5+1x(18G50LWL)		2	41.3	44.3	222	4090	1575	7.98	30	0.36
42x2,5+1x(18E9LWL)	20360587	2	41.3	44.3	222	4090	1575	7.98	30	0.36
48x2,5+1x(12G62,5LWL)	20310813	2	45.5	48.5	243	3950	1800	7.98	30	0.36
48x2,5+1x(12G50LWL)		2	45.5	48.5	243	3950	1800	7.98	30	0.36
48x2,5+1x(12E9LWL)	20310814	2	45.5	48.5	243	3950	1800	7.98	30	0.36
48x2,5+1x(18G62,5LWL)	20310815	2	45.5	48.5	243	3950	1800	7.98	30	0.36
48x2,5+1x(18G50LWL)		2	45.5	48.5	243	3950	1800	7.98	30	0.36
48x2,5+1x(18E9LWL)		2	45.5	48.5	243	3950	1800	7.98	30	0.36
54x2,5	20360911	2	45.5	48.5	243	4090	2025	7.98	30	0.36

(1) Nominal current carrying capacity for rubber cables laid on a surface, at 30°C ambient temperature (see also VDE 0298-4, Table 15).

Prysmian Kabel und Systeme GmbH
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