



SK1_12-045.tif



SK1_12_044.tif

Selection and dimensioning criteria

Refer to Section 4 for further details →

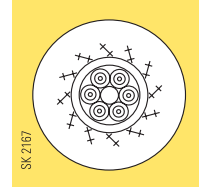
Type	OPTOFLEX			Page	4/2	
Type designation	6 G 62.5/125 Micron 6 G 50/125 Micron 6 E 9/125 Micron					
Approvals/standards	Based on FDDI, ISO/IEC 9314 Part 3, DIN VDE 0888, DIN VDE 0168, MSHA-SC 189-1			Pages and	4/4 4/5	
Application	For optical signal and data transmission on cranes and material handling equipment; suitable for forced guidance (e.g. reels, festoon systems, cable tenders) at high data rates, large bandwidth and absolute immunity to electromagnetic interference			Pages and	4/6 4/7	
Optical parameters	Transmission data of the fibre-optics	Graded-index fibre 50/125	Graded-index fibre 62.5/125	Monomode fibre E9/125		
	Max. attenuation at wavelength 850 nm	2.8 dB/km	3.3 dB/km	–		
	Max. attenuation at wavelength 1300 nm	0.8 dB/km	0.9 dB/km	0.4 dB/km		
	Max. attenuation at wavelength 1550 nm	–	–	0.3 dB/km		
	Bandwidth at 850 nm and 1300 nm	> 400 MHz	> 400 MHz	–		
	Numerical aperture	0.200 ± 0.02	0.275 ± 0.02	–		
	Chromatic dispersion at 1300 nm	–	–	< 3.5 ps/nm km		
	Chromatic dispersion at 1550 nm	–	–	< 18 /nm km		
Thermal parameters	Ambient temperature				Pages	4/14
	<ul style="list-style-type: none"> Fully flexible operation Fixed installation 	- 20°C to + 60°C - 40°C to + 80°C			and	4/15

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Mechanical parameters	Tensile load	Max. 300 N for the complete cable	Page	4/16
	Torsional stresses	50°/m	Page	4/16
	Minimum bending radii	125 mm	Page	4/17
	Fixed installation and on festoon system	125 mm		
	On reels and on cable tenders	250 mm		
	Minimum distance with S-type directional changes	50 x D (D = cable diameter)	Page	4/17
	Travel speed		Page	4/18
	<ul style="list-style-type: none"> • Gantry • Trolley • Hoist 	Up to 120 m/min (cylindrical reel, no random wound reel) Up to 240 m/min (festoon, cable tender) No application		
	Additional tests	Bending and reversed bending test	Pages and	4/19 4/20
Chemical parameters	Resistance to oil	Given to DIN VDE 0473, Part 811-2-1, Para. 10	Page	4/21
	Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture		
Note on installation		Preparation of fibre-optics requires special skills and use of elaborate tools. It is therefore recommended that performance of this work be entrusted to our customer service. (Assembly at works). Please give the connection dimensions.		

- 1 Fibre-optics
- 2 Fibre covering
- 3 Inner sheath
- 4 Special braid
- 5 Outer sheath



Design features

Refer to Section 4 for further details →

Type	OPTOFLEX	Page	4/2
Fibre-optics	Fibre core diameter: 62.5 µm, 50 µm or 9 µm Diameter across the cladding: 125 µm, diameter over the coating: 250 µm		
Fibre covering	Hollow core with filling compound, basic material ETFE Compound 7YI 1 natural colour		
Identification of the fibres	Specially developed colour code for identification of the individual fibres	Page	4/28
Core arrangement	Six cores, especially laid-up in one layer around a GFK supporting element (GFK = glass-fibre reinforced plastic)	Pages and	4/28 4/29
Inner sheath	Special compound, wall thickness 0.8 mm	Pages to	4/24 4/26
Braid	Special braid made of polyester threads Surface covered: approx 80 %	Page	4/30
Outer sheath	Basic material PCP, rubber compound 5GM3 Colour: black, wall thickness 2.6 mm	Pages to	4/24 4/26
Marking	(Year of manufacture) OPTOFLEX, e.g. 6 G 62.5/125 Micron Germany P-MSHA-SC 189/1	Page	4/31
Note	The cable is also available in a special design (not suitable for reeling operation) (Design OPTOFLEX(M), colour of the outer sheath: orange)		

Selection and ordering data

Number of cores and nominal dimensions	Order No.	Overall dimensions of cable		Approx. net weight for 1000 m	Maximum permissible tensile force
		Min. value (guidance value)	Max. value (guidance value)		
		mm	mm	kg	N

OPTOFLEX

6G62.5/125 Micron *	5DG8 002	14.9	16.9	240	300
6G50/125 Micron	5DG8 004	14.9	16.9	240	300
6E9/125 Micron	5DG8 023	14.9	16.9	240	300
18G62.5/125 Micron	5DG8 012	14.9	16.9	240	300
18G50.5/125 Micron	5DG8 014	14.9	16.9	240	300
18E9/125 Micron	5DG8 010	14.9	16.9	240	300

Special design OPTOFLEX (M)

6G50/125 Micron	5DG8 016	8.5	10	100	2000
6G62.5/125 Micron	5DG8 008	8.5	10	100	2000
6E9/125 Micron	5DG8 018	8.5	10	100	2000
12G50/125 Micron	5DG8 005	8.5	10	100	2000
12G62.5/125 Micron	5DG8 022	8.5	10	100	2000
12E9/125 Micron	5DG8 020	8.5	10	100	2000
18G50/125 Micron	5DG8 027	8.5	10	100	2000
18G62.5/125 Micron	5DG8 024	8.5	10	100	2000
18E9/125 Micron	5DG8 033	8.5	10	100	2000

