PRYSMIAN
CABLES & SYSTEMS

OPTOFLEX(M)

Rubber Sheathed Flexible Fibre Optic Cables

ENERGY

Technical Data

	Type	OPTOFLEX(M) LWL		
	Type designation	6 x ... x ... /125 Micron		
	Approvals/ standards	Based on DIN VDE 0888, MSHA-SC 189-1, FDDI, ...		
	Application (refer also to DIN VDE 0298, Part 3)	For optical signal and data transmission in open-cast mining applications, for use on material handling equipment and for laying alongside conveyor belts (including shiftable conveyor belts)		
	Transmission data of the	Graded-index	Graded-index	Monomode fibre
	Fibre	50/125	62,5/125	E9/125
	Attenuation at wavelength 850 nm	2,8 dB/km	3,3 dB/km	-
	Attenuation at wavelength 1310 nm	0,8dB/km	0,9 dB/km	0,4 dB/km
	Attenuation at wavelength 1550 nm	-	-	0,3 dB/km
	Bandwidth at 850 nm	>=400 MHz	>=400 MHz	-
	Bandwidth at 1300 nm	>1200 MHz	>600 MHz	-
	Numerical aperture	0,200 +/- 0,02	0,275 +/- 0,02	0,14 +/- 0,02
	Dispersion value at 1300 nm	-	-	<3,5 ps/nm km
	Dispersion value at 1550 nm	-	-	<18 ps/nm km
Thermal parameters	Ambient temperature			
	- Fully flexible operation	-30°C to +60°C		
	- Fixed installation	-40°C to +80°C		
Mechanical parameters	Tensile load	Max. 2000 N		
	Torsional stresses	Max. 100°/m		
	Minimum bending radius (fixed installation)	50 mm		
	Additional tests	Tensile load test, transverse pressure test, reversed bending test, roller bending test, torsional stress test, water compatibility according to HD 22.16		
Chemical parameters	Resistance to oil	Given to DIN VDE 0473, Part 811-2-1, Para. 10, EN 60811-2-1, IEC 60811-2-1		
	Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture		

Design features

Type	OPTOFLEX(M)
Fibre-optics	Inner core diameter of the fibres: 50 µm, 62.5 µm or 9 µm, diameter over cladding: 125 µm, diameter over coating: 250 µm
Fibre covering	Buffering tube with filling compound, basic material EFTE, compound type: 7YI1, natural colouring
Identification of the fibres	Colour coding of the fibres and buffering tube for identification of the fibre type
Core arrangement	Six buffering tubes, one layer, especially laid-up around a GFK supporting element (GFK = Glass-fibre reinforced plastic)
Braid	Special braid of Kevlar threads, tensile-strength reinforcement by means of longitudinal Kevlar threads, Surface covered: approx. 80%
Outer sheath	Basic material CR, compound type: 5GM5, colour orange
Marking	OPTOFLEX(M) 6 x ... x ... /125 Micron

Selection and ordering data

Number of fibres and fibre type	Order No.	Max. overall diameter [mm]	Bending radius for fixed installation [mm]	Fibre attenuation at 850 nm [dB/km]	Fibre attenuation at 1300 nm [dB/km]	Fibre attenuation at 1550 nm [dB/km]	Numerical aperture	Bandwidth at 1300 nm [MHz]	Approx. net weight for 1000 m [kg]	Maximum permissible tensile force [N]
OPTOFLEX(M)										
6 x 1 G50/125	20003604	10	50	2,8	0,8	-	0,200 +/- 0,02	>1200	100	2000
6 x 2 G50/125	20003605	10	50	2,8	0,8	-	0,200 +/- 0,02	>1200	100	2000
6 x 3 G50/125	20008465	10	50	2,8	0,8	-	0,200 +/- 0,02	>1200	100	2000
6 x 4 G50/125	20101418	10	50	2,8	0,9	-	0,200 +/- 0,02	>1200	100	2000
6 x 1 G62,5/125	20003601	10	50	3,3	0,9	-	0,275 +/- 0,02	>600	100	2000
6 x 2 G62,5/125	20003602	10	50	3,3	0,9	-	0,275 +/- 0,02	>600	100	2000
6 x 3 G62,5/125	5DG8 024	10	50	3,3	0,9	-	0,275 +/- 0,02	>600	100	2000
6 x 1 E9/125	20003606	10	50	-	0,4	0,3	0,140 +/- 0,02	-	100	2000
6 x 2 E9/125	20003607	10	50	-	0,4	0,3	0,140 +/- 0,02	-	100	2000
6 x 3 E9/125	5DG8 033	10	50	-	0,4	0,3	0,140 +/- 0,02	-	100	2000
6 X 4 E9/125	20024482	10	50	-	0,4	0,3	0,140 +/- 0,02	-	100	2000