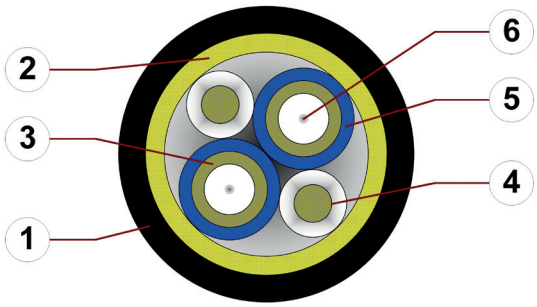
Data sheet
chainflex® CFLG.LB

Fibre Optic Cable (Class 7.5.4.1) ● Graded index glass-fibre cable for heaviest duty applications ● TPE outer jacket ● Metal-free ● Oil and bio-oil resistant ● Low-temperature-flexible ● PVC and halogen-free ● UV-resistant



Example image



1. Outer jacket: Pressure extruded, halogen-free TPE mixture
2. Reinforcement: Extremely bending- and torsion-stable aramid braiding
3. Reinforcement: Extremely bending- and torsion-stable aramid wrapping
4. Filler: Aramid damper for high tensile stresses
5. Fibre tube: LSZH („Low smoke & zero halogen“) Material
6. Fibre: Glass optical fibre (GOF)

Example image
For detailed overview please see design table

Cable structure

Fibre	62.5/125 µm, 50/125 µm, 9/125 µm especially bending-resistant solid glass fibre optic cores, with aramid strain relief elements.
Core structure	FOC cores wound with a short pitch length with high-tensile aramid dampers.
Core identification	Orange or blue or yellow with black numbers.
Overall shield	Extremely bending-resistant aramid braid for torsion protection.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. **Colour:** Jet black (similar to RAL 9005) **Printing:** white

„00000 m“** igus chainflex CFLG._LB.---① ---② CE UKCA RoHS-II conform

www.igus.eu +++ chainflex cable works +++

* **Length printing:** Not calibrated. Only intended as an orientation aid.
① / ② Cable identification according to Part No. (see technical table).
Example: ... chainflex **CFLG.2LB.50/125 2x50/125** ...

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Example image

Dynamic information

Bend radius	e-chain® linear	min. 5 x d
	flexible	min. 4 x d
	fixed	min. 3 x d
Temperature	e-chain® linear	-35 °C up to +80 °C
	flexible	-50 °C up to +80 °C (following DIN EN 60811-504)
	fixed	-55 °C up to +80 °C (following DIN EN 50305)
v max.	unsupported	10 m/s
	gliding	6 m/s
a max.		20 m/s²
Travel distance		Unsupported travels and up to 100 m for gliding applications, Class 5 **CFLG.12.LB:** Unsupported travels and up to 400 m for gliding applications, Class 6

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

Guaranteed service life according to guarantee conditions

Double strokes	5 million	7.5 million	10 million
Temperature, from/to [°C]	**R min. [factor x d]**	**R min. [factor x d]**	**R min. [factor x d]**
-35/-25	7.5	8.5	9.5
-25/+70	5	6	7
+70/+80	7.5	8.5	9.5

Minimum guaranteed service life of the cable under the specified conditions.
The installation of the cable is recommended within the middle temperature range.

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Example image

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

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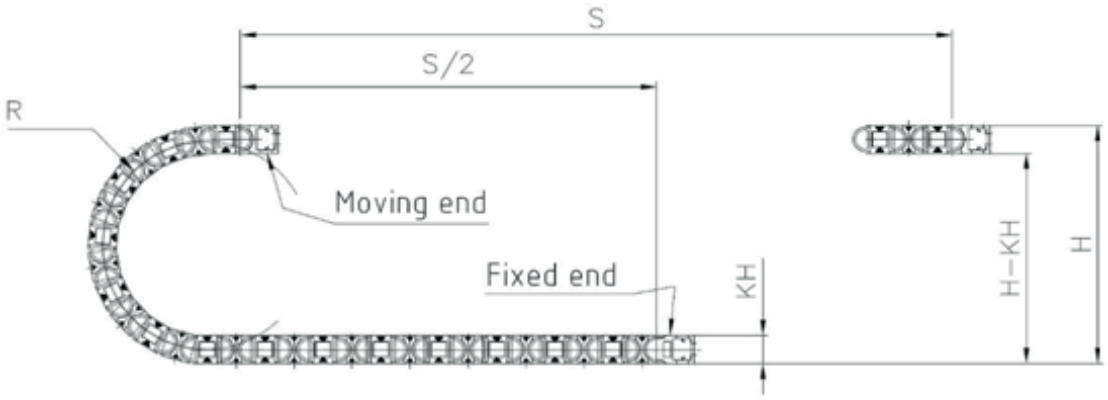
Fibre Optic Cable (Class 7.5.4.1) ● Graded index glass-fibre cable for heaviest duty applications ● TPE outer jacket ● Metal-free ● Oil and bio-oil resistant ● Low-temperature-flexible ● PVC and halogen-free ● UV-resistant



Example image

Typical lab test setup for this cable series

Test bend radius R	approx. 38 - 75 mm
Test travel S	approx. 1 - 15 m
Test duration	minimum 2 - 4 million double strokes
Test speed	approx. 0.5 - 2 m / s
Test acceleration	approx. 0.5 - 1.5 m / s²



Typical application areas

- For heaviest duty applications with 5-7.5 x d, Class 7
- Unsupported travel distances and up to 100 m for gliding applications (horizontal + vertical), Class 5
  CFLG.12.LB: Unsupported travel distances and up to 400 m for gliding applications (horizontal + vertical), Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Maximum EMC protection, with high transmission qualities
- Indoor and outdoor applications
- crane applications, Conveyor technique, Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, quick handling, semiconductor insertion, refrigerating sector

Garantie igus chainflex 36 bis zu 36 Monate Garantie

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

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Example image

Technical tables:

Mechanical information

Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
Multimode (Graded index)			
CFLG.2LB.62.5/125	2x62.5/125	8.5	57
CFLG.4LB.62.5/125	4x62.5/125	9.0	68
CFLG.6LB.62.5/125	6x62.5/125	11.0	91
CFLG.12LB.62.5/125	12x62.5/125	14.0	150
CFLG.2LB.50/125	2x50/125	8.5	57
CFLG.4LB.50/125	4x50/125	9.0	68
CFLG.6LB.50/125	6x50/125	11.0	91
CFLG.12LB.50/125	12x50/125	14.0	150
Singlemode			
CFLG.12LB.9/125	12x9/125	14.0	150

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Optical features

Fibre diameter [µm]	Wave length [nm]	Bandwidth [MHz x km]	Attenuation [dB/km]	Chromatic dispersion [ps/nm x km]
62.5/125	850	≥ 200	≤ 3.5	-
62.5/125	1300	≥ 500	≤ 1.5	-
50/125	850	≥ 500	≤ 3.0	-
50/125	1300	≥ 500	≤ 1.0	-
9/125	1310	-	≤ 0.4	3.5
9/125	1550	-	≤ 0.3	18

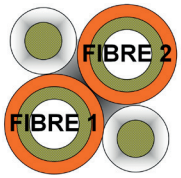
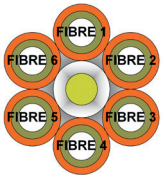
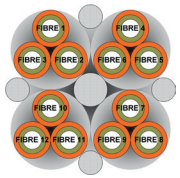
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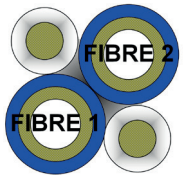
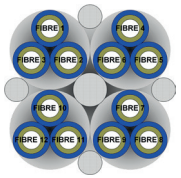
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Data sheet
chainflex® CFLG.LB

Design table
Fibre diameter: 62.5/125

Part No. (No. of cores)	Core design
CFLG.2LB.62.5/125 (2x62.5/125)	
CFLG.4LB.62.5/125 (4x62.5/125)	
CFLG.6LB.62.5/125 (6x62.5/125)	
CFLG.12LB.62.5/125 (12x62.5/125)	

Design table
Fibre diameter: 50/125

Part No. (No. of cores)	Core design
CFLG.2LB.50/125 (2x50/125)	
CFLG.4LB.50/125 (4x50/125)	
CFLG.6LB.50/125 (6x50/125)	
CFLG.12LB.50/125 (12x50/125)	

Design table
Fibre diameter: 9/125

Part No. (No. of cores)	Core design
CFLG.12LB.9/125 (12x9/125)	

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