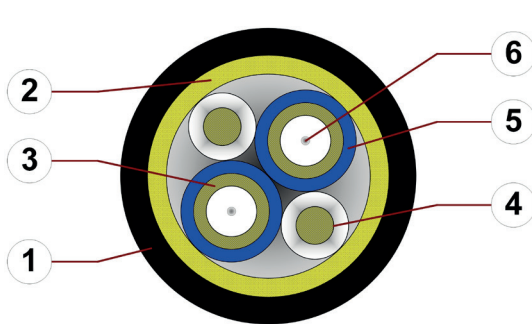


# Data sheet

## chainflex® CFLG.LB



Fibre Optic Cable (Class 7.5.4.1) ● 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



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



igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



### Cable structure



#### Fibre Optic Cable

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 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 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 ...

Example image

igus® chainflex® CFLG.LB






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### Dynamic information

	<b>Bend radius</b>	e-chain® linear flexible fixed	minimum 5 x d minimum 4 x d minimum 3 x d
	<b>Temperature</b>	e-chain® linear flexible fixed	-35°C up to +80°C -50°C up to +80°C (following DIN EN 60811-504) -55°C up to +80°C (following DIN EN 50305)
	<b>v max.</b>	unsupported gliding	10m/s 6m/s
	<b>a max.</b>		20m/s <sup>2</sup>
	<b>Travel distance</b>	Unsupported travels and up to 100m for gliding applications, Class 5 <b>CFLG.12.LB:</b> Unsupported travels and up to 400m 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. [x d]	R min. [x d]	R min. [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.

Example image



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### 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
	PTFE-free	The design of these products does not contain PTFE
	UL-verified	Certificate No. V293650: „igus 4-year 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
	Dry cleanroom	Tested in „dry cleanroom“ according to DIN EN ISO 14644-1, Report No. IG 2405-1526
	CE	Following 2014/35/EU



Example image

# Data sheet

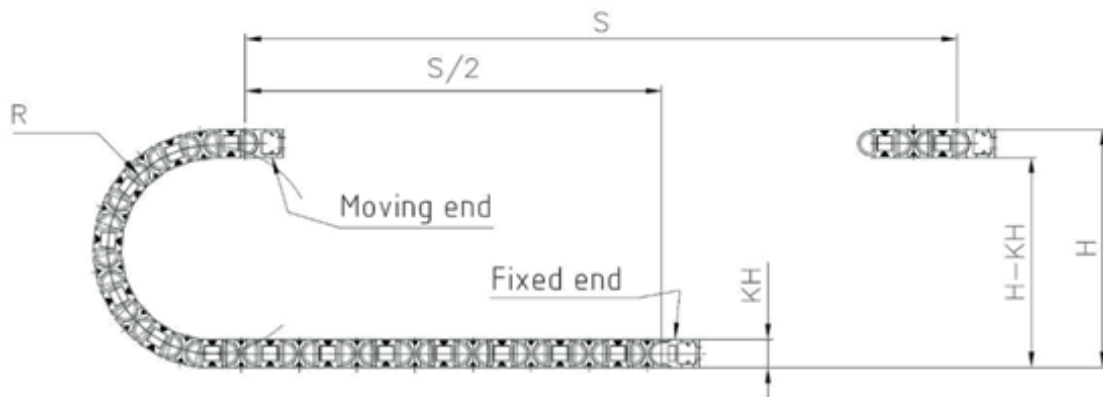
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### Typical lab test setup for this cable series

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 / s <sup>2</sup>



### Typical application areas

- For heaviest duty applications with 5-7.5 x d, Class 7
- Unsupported travels and up to 100m for gliding applications (horizontal + vertical), Class 5,  
**CFLG.12LB:** Unsupported travels and up to 400m in 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 technology, storage and retrieval units, processing/packaging machines, fast handling, semiconductor assembly, refrigeration area

Example image



igus 4-year  
chainflex cable  
guarantee and  
service life  
calculator based  
on 2 billion test  
cycles per year



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### 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	54
CFLG.4LB.50/125	4x50/125	9.0	64
CFLG.6LB.50/125	6x50/125	11.0	86
CFLG.12LB.50/125	12x50/125	14.0	150
Singlemode			
CFLG.2LB.9/125	2x9/125	8.5	57
CFLG.4LB.9/125	4x9/125	9.0	68
CFLG.12LB.9/125	12x9/125	15.0	125

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

#### Optical features

Fibre diameter	Wave length	Bandwidth	Attenuation	Chromatic dispersion
[μm]	[nm]	[MHz x km]	[dB/km]	[ps/nm x km]
62.5/125	850	≥ 200	≤ 3.5	-
62.5/125	1300	≥ 500	≤ 1.5	-
50/125	850	≥ 1,500	≤ 3.5	-
50/125	1300	≥ 500	≤ 1.5	-
9/125	1310	-	≤ 0.5	3.5
9/125	1550	-	≤ 0.5	18

Example image



igus 4-year  
chainflex cable  
guarantee and  
service life  
calculator based  
on 2 billion test  
cycles per year



### 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.2LB.9/125 (2x9/125)	
CFLG.4LB.9/125 (4x9/125)	
CFLG.12LB.9/125 (12x9/125)	