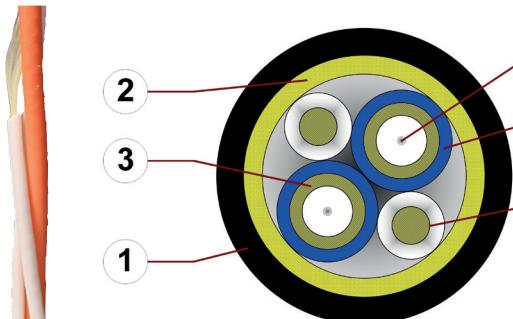


Data sheet

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)



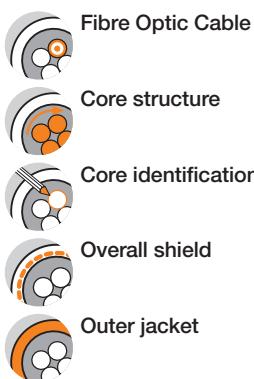
igus 4-year
chainflex cable
guarantee and
service life
calculator based
on 2 billion test
cycles per year

Example image

For detailed overview please see design table



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

Data sheet

chainflex® CFLG.LB



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Dynamic information

| | | | |
|--|-----------------|--------------------------------------|---|
| | Bend radius | e-chain® linear flexible fixed | minimum 5 x d minimum 4 x d minimum 3 x d |
| | Temperature | 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) |
| | v max. | unsupported gliding | 10m/s 6m/s |
| | a max. | | 20m/s ² |
| | Travel distance | | Unsupported travels and up to 100m for gliding applications, Class 5 CFLG.12.LB: 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



igus® chainflex® CFLG.LB



Data sheet

chainflex® CFLG.LB

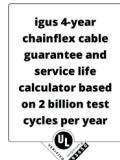


Fibre Optic Cable (Class 7.5.4.1) • Glass-fibre cable for heaviest duty applications
● TPE outer jacket ● Metal-free ● Oil and bio-oil resistant ● Low-temperature-flexible
● PVC and halogen-free ● UV-resistant

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

igus® chainflex® CFLG.LB

Data sheet

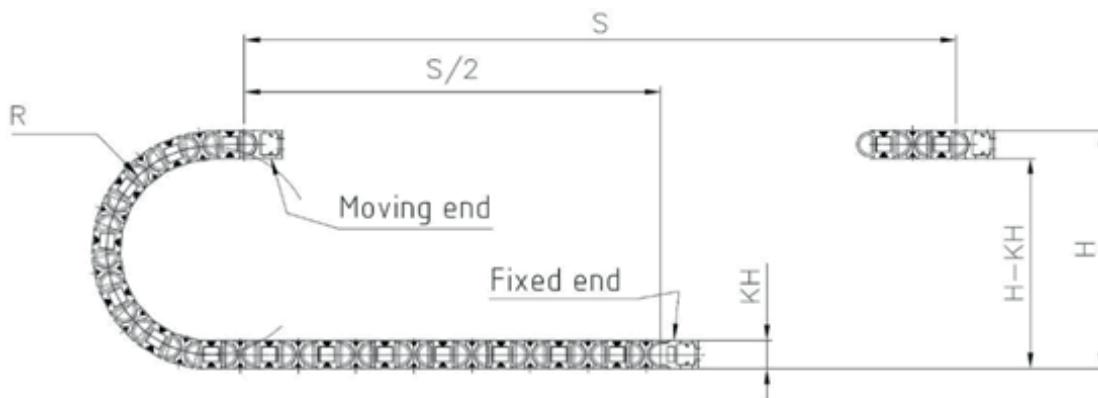
chainflex® CFLG.LB



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

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 ² |



igus 4-year
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Example image

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 • TPE outer jacket • Metal-free • Oil and bio-oil resistant • Low-temperature-flexible
 • PVC and halogen-free • UV-resistant

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 [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 | $\geq 1,500$ | ≤ 3.5 | - |
| 50/125 | 1300 | ≥ 500 | ≤ 1.5 | - |
| 9/125 | 1310 | - | ≤ 0.5 | 3.5 |
| 9/125 | 1550 | - | ≤ 0.5 | 18 |



Example image

igus® chainflex® CFLG.LB



igus 4-year
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PTFE
FREE

UL
LISTED

CR
US

NEC
NFPA

CLIA

DNV-GL
DNV GL

REACH

RoHS

clean-
room

dry
cleanroom
tested

DESINA

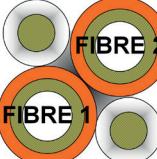
CE

Data sheet chainflex® CFLG.LB

igus®

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) |  |

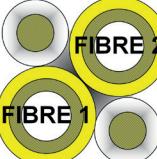
Design table

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) |  |