

Fibre Optic Cable | TPE | chainflex® CFROBOT5







36 10 million  
Cycles guaranteed

10 x d  
Bend radius, e-chain®





±180°/m  
Torsion angle

- For torsion applications
- TPE outer jacket
- Oil and bio-oil-resistant
- UV-resistant
- Low-temperature-flexible
- Hydrolysis and microbe-resistant
- PVC and halogen-free








Dynamic information

	Bend radius	flexible twisted	minimum 10 x d
		fixed	minimum 5 x d
	Temperature	flexible twisted	-25°C up to +80°C
		fixed	-55°C up to +80°C (following DIN EN 50305)
	v max.	twisted	180°/s
	a max.	twisted	60°/s²
	Travel distance	Robots and 3D movements, Class 1	
	Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

	Conductor	50/125µm, 62.5/125µm bending-resistant solid glass fibre optic cores, with aramid strain relief elements.	
	Core structure	FOC cores wound with high-tensile aramid dampers around a glass-fibre reinforced plastic central element.	
	Core identification	► <b>Product range table</b>	
	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)	

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)	

EPLAN download, configurators ► [www.igus.eu/CFROBOT5](http://www.igus.eu/CFROBOT5)

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2023

Class 6.1.4.3



Basic requirements  
Travel distance  
Oil resistance  
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

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  
Following 2014/35/EU

In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-35/-25	±150	±90	±30
-25/+70	±180	±120	±60
+70/+80	±150	±90	±30

\* Higher number of double strokes? Service life calculation online ► [www.igus.eu/chainflexlife](http://www.igus.eu/chainflexlife)

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling

Part No.	Number of fibres/ Fibre diameter/ Conductor nominal cross section	Outer diameter (d) max. [mm]	Weight [kg/km]
CFROBOT5.500 <sup>11)</sup>	2x62.5/125	8.5	53
CFROBOT5.501	2x50/125	8.5	53

<sup>11)</sup> Phase-out model

**Note:** The given outer diameters are maximum values and may tend toward lower tolerance limits.  
G = with green-yellow earth core x = without earth core

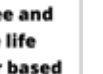
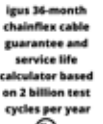
Part No.	Bandwidth [MHz x km] @ 650nm	Attenuation [dB/km] @ 650nm	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Fibre identification
CFROBOT5.500 <sup>11)</sup>	≥ 200	≤ 3.0	≥ 500	≤ 0.7	orange with white numbers
CFROBOT5.501	≥ 500	≤ 2.5	≥ 500	≤ 0.7	blue with white numbers



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: [www.igus.eu/cf-case](http://www.igus.eu/cf-case)



Example image

UL-verified chainflex® guarantee ... [www.igus.eu/ul-verified](http://www.igus.eu/ul-verified)