











# Fibre optic cable | TPE | chainflex® CFROBOT5

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








## Dynamic information

	<b>Bend radius</b>	<b>e-chain® twisted flexible</b>	minimum 10 x d minimum 8 x d
		<b>fixed</b>	minimum 5 x d
	<b>Temperature</b>	<b>e-chain® twisted flexible</b>	-35 °C to +80 °C -50 °C to +80 °C (following DIN EN 60811-504)
		<b>fixed</b>	-55 °C to +80 °C (following DIN EN 50305)
	<b>v max.</b>	<b>twisted</b>	180 °/s
	<b>a max.</b>	<b>twisted</b>	60 °/s²
	<b>Travel distance</b>	Robots and multi-axis movements, Class 3	
	<b>Torsion</b>	± 180°, with 1 m cable length, Class 3	

## Cable structure

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

	<b>UV resistance</b>	High.
	<b>Oil resistance</b>	Oil resistant (following DIN EN 60811-404), bio-oil resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4.
	<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992).
	<b>Halogen-free</b>	Following DIN EN 60754.
	<b>Lead-free</b>	Following 2011/65/EU (RoHS-II).
	<b>Cleanroom</b>	According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1.
	<b>CE</b>	Following 2014/35/EU.

# Class 6.1.4.3

## Guaranteed lifetime according to guarantee conditions (Page 22-23)

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

\* Higher number of cycles? Online lifetime calculation: [www.igus.eu/chainflexlife](http://www.igus.eu/chainflexlife)

## Typical mechanical application areas

- For extremely heavy duty applications with torsional movements
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV resistant
- Especially for robots and multi-axis movements
- Robots, Handling


Part No.	Number of fibres	Fibre diameter	Outer diameter (d) max.	Weight
			[mm]	
<b>CFROBOT5.500</b>	2	62,5/125	8.5	53
<b>CFROBOT5.501</b>	2	50/125	8.5	53

Part No.	Bandwidth [MHz x km] @ 850 nm	Bandwidth [MHz x km] @ 1300 nm	Attenuation [dB/km] @ 850 nm	Attenuation [dB/km] @ 1300 nm	Fibre identification
	<b>CFROBOT5.500</b>	≥ 200	≥ 500	≤ 3,0	≤ 0,7
<b>CFROBOT5.501</b>	≥ 500	≥ 500	≤ 2,5	≤ 0,7	blue with white numerals

**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

 **Order example: CFROBOT5.501 – To your desired length (0.5 m steps)**  
CFROBOT5 chainflex® series .501 Code Type of fibres

 Online order: ► [www.chainflex.eu/CFROBOT5](http://www.chainflex.eu/CFROBOT5)

 Delivery time 24h or today.  
Delivery time means time until shipping of goods.



igus® chainflex® CFROBOT5

Example image