

# Spindle cable/Single core | TPE | chainflex® CFROBOT

**36** 10 million  
Cycles guaranteed

**10 x d**  
Bend radius, e-chain®

**±180°/m**  
Torsion angle

- For torsion applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC-free
- UV-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant

## Dynamic information

<b>Bend radius</b>	<b>flexible twisted</b>	minimum 10 x d
	<b>fixed</b>	minimum 5 x d
<b>Temperature</b>	<b>flexible twisted</b>	-35°C up to +90°C
	<b>fixed</b>	-50°C up to +100°C (following DIN EN 50305)
<b>v max.</b>	<b>twisted</b>	180°/s
<b>a max.</b>	<b>twisted</b>	60°/s <sup>2</sup>
<b>Travel distance</b>	Robots and 3D movements, Class 1	
<b>Torsion</b>	Torsion ±180°, with 1m cable length, Class 3	

## Cable structure

<b>Conductor</b>	Extremely bend-resistant cable.
<b>Core insulation</b>	Mechanically high-quality TPE mixture.
<b>Overall shield</b>	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 90% optical
<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)

## Electrical information

<b>Nominal voltage</b>	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
<b>Testing voltage</b>	4,000V (following DIN EN 50395)

## 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>Flame-retardant</b>	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
<b>UL verified</b>	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

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

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



EU2023

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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°			

## Class 6.1.4.3

- UL/CSA AWM
- NFPA
- EAC
- REACH
- Lead-free
- Cleanroom
- CE
- UKCA

See data sheet for details ► [www.igus.eu/CFROBOT](http://www.igus.eu/CFROBOT)

Following NFPA 79-2018, chapter 12.9

Certificate No. RU C-DE.ME77.B.00863/20

In accordance with regulation (EC) No. 1907/2006 (REACH)

Following 2011/65/EC (RoHS-II/RoHS-III)

According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - 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

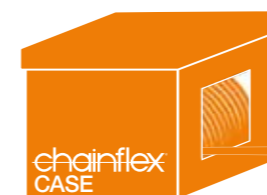
\* Higher number of double strokes? Service life calculation online ► [www.igus.eu/chainflexlife](http://www.igus.eu/chainflexlife)

## 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, spindle drives

Part No.	Number of cores and conductor nominal cross section [mm <sup>2</sup> ]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT.035	(1x10)C	10.5	125	194
CFROBOT.036	(1x16)C	12.0	189	269
CFROBOT.037	(1x25)C	14.5	298	392
CFROBOT.038	(1x35)C	15.5	403	528

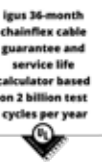
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.  
G = with green-yellow earth core x = without earth core



## 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

igus® chainflex® CFROBOT