Motor cable | PUR | chainflex® CFROBOT6

- For torsion applications
- PUR outer jacket
- Oil and coolant-resistant
- Flame retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Example image

Dynamic information

Bend radius	e-chain® twisted	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	e-chain® twisted	-25 °C to +80 °C
	flexible	-40 °C to +80 °C (following DIN EN 60811-504)
	fixed	-50 °C to +80 °C (following DIN EN 50305)
v max.	twisted	180 °/s
a max.	twisted	60 °/s²
Travel distance	Robots and multi-axis movements, Class 1	
Torsion	± 180°, with 1 m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant design consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	Black cores with white numerals 1-2, one core green-yellow.
Outer jacket	Low-adhesion, highly abrasion-resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2). Colour: Steel-blue (similar to RAL 5011)

Electrical information

Nominal voltage	600/1000 V (following DIN VDE 0298-3)
Testing voltage	4000 V (following DIN EN 50395)

Properties and approvals

UV resistance	High.
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3.
Flame retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992).

Class 6.1.3.3

Basic requirements	low	1 2 3 4 5 **6** 7 highest
Travel distance	unsupported	**1** 2 3 4 5 6 ≥ 400 m
Oil resistance	none	1 2 **3** highest
Torsion	none	1 2 **3** ±180°

Halogen-free	Following DIN EN 60754.
UL/CSA	Style 10492 and 21223, 1000 V, 80 °C
NFPA	Following NFPA 79-2012 chapter 12.9.
EAC	Certificate no. RU C-DE.ME77.B.02324 (TR ZU)
CTP	Certificate no. C-DE.PB49.B.00420 (Fire safety)
CEI	Following CEI 20-35.
Lead-free	Following 2011/65/EU (RoHS-II).
Cleanroom	According to ISO Class 1. Outer jacket material complies with CF27.07.05.02.01.D, tested by IPA according to standard 14644-1.
CE	Following 2014/35/EU.

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

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of cycles? Online lifetime calculation: www.igus.eu/chainflexlife

Typical mechanical application areas

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

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT6.100.03	3G10.0	16.0	317	414
CFROBOT6.160.03	3G16.0	18.5	508	618
CFROBOT6.250.03	3G25.0	23.0	795	962
CFROBOT6.350.03 [11]	3G35.0	25.5	1122	1298

[11] 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

CFROBOT6
PUR
± 180°/m