











Motor cable | PUR | chainflex® CFROBOT7

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



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.	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	Power cores: Black cores with white numerals, one core green-yellow Product range table 2 Control pairs: Black cores with white numerals. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8 4 Control pairs: Colour code in accordance with DIN 47100
	Overall shield	Extremely torsion-resistant tinned braided copper shield. Coverage approx. 85 % optical
	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)

Example image

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

Class 6.1.3.3

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).
	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 SU)
	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]	Temperature, from/to [°C]	Torsion max. [%/m]	Temperature, from/to [°C]	Torsion max. [%/m]
*	-25/-15	±150	-25/-15	±90	-25/-15	±30
	-15/+70	±180	-15/+70	±120	-15/+70	±60
	+70/+80	±150	+70/+80	±90	+70/+80	±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





Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
without control pair				
CFROBOT7.15.03.C	(3G1.5)C	8.5	64	103
CFROBOT7.15.04.C	(4G1.5)C	9.5	82	127
CFROBOT7.25.03.C	(3G2.5)C	10.0	98	147
CFROBOT7.25.04.C	(4G2.5)C	10.5	127	182
CFROBOT7.60.04.C	(4G6.0)C	15.0	296	403
2 Control pairs				
CFROBOT7.15.15.02.02.C	(4G1.5+2x(2x1.5)C)C	16.5	211	325
CFROBOT7.25.15.02.02.C	(4G2.5+2x(2x1.5)C)C	17.0	259	381
4 Control pairs				
CFROBOT7.40.02.02.04.C	(4G4.0+4x(2x0.25)C)C	17.0	270	384

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



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