Control cable | TPE | chainflex® CF99

- For heaviest duty applications and especially small radii up to 4 x d
- TPE outer jacket
- Shielded
- Oil-resistant, bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Example image

Dynamic information

Bend radius	**e-chain®**	minimum 4 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain®**	-35 °C to +90 °C
	flexible	-50 °C to +90 °C (following DIN EN 60811-504)
	fixed	-55 °C to +90 °C (following DIN EN 50305)
v max.	**unsupported**	10 m/s
	gliding	6 m/s
a max.		100 m/s²
Travel distance		Short, very fast applications with small radii and tight design space, Class 5

Cable structure

Conductor	Conductor consisting of a special highly flexible alloy.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with a short pitch length.
Core identification	**Colour code in accordance with DIN 47100.** CF99.02.03.INI: brown, blue, black CF99.03.04.INI: brown, blue, black, white
Inner jacket	TPE mixture, adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending resistant, special alloy shield. Coverage approx. 70 % inear, approx. 90 % optical
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel-blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300 V
Testing voltage	1500 V

Class 7.5.4.1

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	**4**	highest			
Torsion	none	**1**	2	3	±180°				

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.
EAC	Certificate no. RU C-DE.ME77.B.01254 (TR ZU)
Lead-free	Following 2011/65/EU (RoHS-II).
Cleanroom	According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1.
CE	Following 2014/35/EU.

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

Double strokes*	20 million	30 million	40 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	5	6	7
-25/+80	4	5	6
+80/+90	5	6	7

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

Typical mechanical application areas

- For heaviest duty applications and especially small radii up to 4 x d
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV resistant
- Especially for short, very fast applications with small radii and tight design space
- Pick and place machines, automatic doors, Clean room, very quick handling equipment

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. mm	Copper index kg/km	Weight kg/km
CF99.01.02	(2x0.14)C	5.5	14	33
CF99.01.04	(4x0.14)C	6.0	21	43
CF99.01.08	(8x0.14)C	8.0	36	69
CF99.02.04	(4x0.25)C	6.5	30	56
CF99.02.07	(7x0.25)C	8.0	48	85
CF99.03.08	(8x0.34)C	9.0	64	105

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