















# Data cable | TPE | chainflex® CF12

- For extremely heavy duty applications
- TPE outer jacket
- Double-shielded
- Oil-resistant, bio-oil-resistant
- PVC and halogen-free
- Hydrolysis and microbe-resistant

## Dynamic information

 <b>Bend radius</b>	<b>e-chain® linear flexible</b>	minimum 10 x d minimum 8 x d
	<b>fixed</b>	minimum 5 x d
 <b>Temperature</b>	<b>e-chain® linear flexible</b>	-35 °C to +100 °C -50 °C to +100 °C (following DIN EN 60811-504)
	<b>fixed</b>	-55 °C to +100 °C (following DIN EN 50305)
 <b>v max.</b>	<b>unsupported</b>	10 m/s
	<b>gliding</b>	6 m/s
 <b>a max.</b>		100 m/s <sup>2</sup>
 <b>Travel distance</b>		Unsupported travel distances and up to 400 m and more for gliding applications, Class 6

## Cable structure

 <b>Conductor</b>	Stranded conductor in especially bending-resistant design consisting of bare copper wires (following DIN EN 60228).
 <b>Core insulation</b>	Mechanically high-quality TPE mixture.
 <b>Core structure</b>	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
 <b>Core identification</b>	<b>Cores &lt; 0.5 mm<sup>2</sup>:</b> Colour code in accordance with DIN 47100. <b>Cores ≥ 0.5 mm<sup>2</sup>:</b> Black cores with white numerals.
 <b>Element shield</b>	Extremely bending-resistant braiding made of tinned copper wires. Bedeckung linear ca. 70 %, optisch ca. 90 %
 <b>Element jacket</b>	TPE mixture over pair shielding, adapted to suit the requirements in e-chains®.
 <b>Inner jacket</b>	TPE mixture, adapted to suit the requirements in e-chains®.
 <b>Overall shield</b>	Highly flexible shield consisting of galvanised steel wire braid. Coverage approx. 70 % linear, 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: Steel-blue (similar to RAL 5011)

## Electrical information









 <b>Nominal voltage</b>	300/300 V (following DIN VDE 0298-3)
 <b>Testing voltage</b>	1500 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	≥ 400 m	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	±180°				

# Class 6.6.4.1

## 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>EAC</b>	Certificate no. RU C-DE.ME77.B.01254 (TR ZU)
 <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.

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

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	12.5	13.5	14.5
-25/+90	10	11	12
+90/+100	12.5	13.5	14.5

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

## Typical mechanical application areas

- For heaviest duty applications
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV resistant
- Unsupported travel distances and up to 400 m and more for gliding applications
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling equipment, Clean room, semiconductor handling, outdoor cranes, low temperature applications
- For maximum EMC protection

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
CF12.02.02.02	(2x(2x0.25)C)C	11.0	28	153
CF12.02.04.02	(4x(2x0.25)C)C	11.0	54	177
CF12.02.05.02 <sup>11)</sup>	(5x(2x0.25)C)C	13.0	70	228
CF12.05.03.02	(3x(2x0.5)C)C	13.5	69	232
CF12.05.04.02	(4x(2x0.5)C)C	14.5	87	270
CF12.05.05.02	(5x(2x0.5)C)C	15.5	109	341
CF12.05.06.02	(6x(2x0.5)C)C	17.0	137	397
CF12.05.08.02	(8x(2x0.5)C)C	20.5	174	527
CF12.05.10.02	(10x(2x0.5)C)C	23.0	217	614
CF12.05.14.02	(14x(2x0.5)C)C	23.0	317	725
CF12.10.06.02	(6x(2x1.0)C)C	20.0	212	551

<sup>11)</sup> 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

