

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°				

# Data cable | TPE | chainflex® CF11

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

## Dynamic information

Bend radius	<b>e-chain® linear flexible</b>	minimum 6.8 x d minimum 5 x d
Temperature	<b>e-chain® linear flexible</b>	-35 °C to +100 °C -50 °C to +100 °C (following DIN EN 60811-504)
v max.	<b>unsupported</b>	10 m/s
a max.	<b>gliding</b>	6 m/s
Travel distance	Unsupported travel distances and up to 400 m and more for gliding applications, Class 6	

## 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 structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.	
Core identification	<b>Cores &lt; 1.0 mm²:</b> Colour code in accordance with DIN 47100. <b>Cores ≥ 1.0 mm²:</b> Black cores with white numerals.	
Inner jacket	TPE mixture, adapted to suit the requirements in e-chains®.	
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage approx. 70 % linear, 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 (following DIN VDE 0298-3)	
Testing voltage	1500 V (following DIN EN 50395)	

# Class 6.6.4.1

## 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*	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	7.5	8.5	9.5
-25/+90	6.8	7.5	8.5
+90/+100	7.5	8.5	9.5

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

## Typical mechanical application areas

- For extremely heavy 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



Example image



low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 400 m
none	1	2	3	4	5	6	7	highest
none	1	2	3	4	5	6	7	±180°

igus® chainflex® CF11

Example image

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
CF11.01.04.02	(4x(2x0.14))C	7.5	31	65
CF11.01.18.02	(18x(2x0.14))C	12.0	107	198
CF11.02.01.02	(2x0.25)C	6.0	18	39
CF11.02.02.02 <sup>2)</sup>	(2x(2x0.25))C	6.5	28	51
CF11.02.03.02	(3x(2x0.25))C	8.0	37	80
CF11.02.04.02	(4x(2x0.25))C	8.5	44	91
CF11.02.05.02	(5x(2x0.25))C	9.0	52	107
CF11.02.06.02	(6x(2x0.25))C	10.0	73	134
CF11.02.09.02 <sup>1)</sup>	(9x(2x0.25))C	12.5	102	208
CF11.02.10.02	(10x(2x0.25))C	13.0	109	223
CF11.02.14.02	(14x(2x0.25))C	13.5	132	232
CF11.03.08.02	(8x(2x0.34))C	13.0	113	227
CF11.05.04.02	(4x(2x0.5))C	9.5	82	138
CF11.05.06.02	(6x(2x0.5))C	12.0	110	205
CF11.05.08.02	(8x(2x0.5))C	14.0	145	271
CF11.07.03.02	(3x(2x0.75))C	10.0	87	159
CF11.10.04.02	(4x(2x1.0))C	12.0	134	237
CF11.15.06.02	(6x(2x1.5))C	17.0	263	427
CF11.25.03.02	(3x(2x2.5))C	15.5	226	393

<sup>1)</sup> Phase-out model  
The chainflex® types marked with <sup>2)</sup> are cables designed as a star-quad.  
**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

