PVC | iguPUR | PUR | **TPE**

Measuring system cable | TPE | chainflex® CF11.D

Example image

12.5 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

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

Now available with UL approval & 25% longer service life

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of tinned copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Yellow-green (similar to RAL 6018)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

EU2023

igus

CF11.D
TPE
6.8 x d

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
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
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus.eu/CF11D
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		12.5 million	
Temperature, from/to [°C]	< 10m R min. [factor x d]	≥ 10m R min. [factor x d]	< 10m R min. [factor x d]	≥ 10m R min. [factor x d]	< 10m R min. [factor x d]	≥ 10m R min. [factor x d]
-35/-25	8.5	10	9.5	11	10.5	12
-25/+80	6.8	7.5	7.5	8.5	8.5	9.5
+80/+90	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

Guarantee igus chainflex 36 up to 36 months guarantee

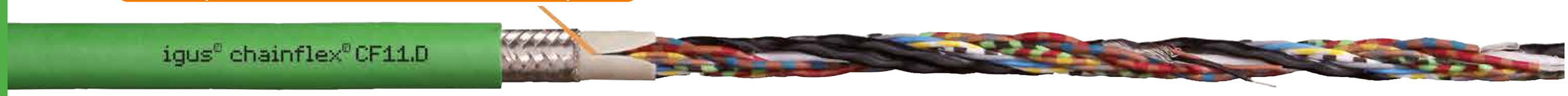
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Measuring system cable | TPE | chainflex® CF11.D

Class 6.6.4.1

Basic requirements: low 1 2 3 4 5 **6** 7 highest
Travel distance: unsupported 1 2 3 4 5 **6** ≥ 400m
Oil resistance: none 1 2 3 4 highest
Torsion: none **1** 2 3 4 ±360°

Strip cables 50% faster with CFRIP® tear strip



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]
CF11.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	71	119
CF11.002.D	(3x(2x0.14)C+2x(0.5)C)C	10.0	74	125
CF11.003.D	(3x(2x0.14)+2x1.0)C	8.0	56	86
CF11.004.D [11)]	(2x(2x(2x0.14))+(4x0.14)C +(4x0.5))C	11.0	78	127
CF11.005.D	(4x(2x0.14)+4x0.5)C	9.0	60	97
CF11.006.D	(3x(2x0.14)C+(4x0.14)+(4x0.25) +(2x0.5))C	10.5	85	139
CF11.007.D [2)]	(4x0.34)C	6.0	31	48
CF11.008.D	(3x(2x0.25))C	7.5	36	60
CF11.009.D	(4x(2x0.25)+2x0.5)C	8.5	57	91
CF11.010.D	(4x(2x0.25)+2x1.0)C	9.0	68	105
CF11.011.D	(4x(2x0.34)+4x0.5)C	10.0	81	124
CF11.012.D	(3x(2x0.14)C+(3x0.14)C +(4x0.14)+(2x0.14+2x0.5))C	11.0	89	140
CF11.013.D	(3x(2x0.14)C+2x0.5)C	9.0	62	104
CF11.014.D	(4x(2x0.25)C+(2x0.5))C	11.0	86	138
CF11.015.D	(4x(2x0.14)+4x0.5)C	9.0	60	97

Part No.	Core group	Colour code
CF11.001.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)	brown-red/brown-blue
CF11.002.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
CF11.003.D	3x(2x0.14)	white/brown, green/yellow, grey/pink
	2x1.0	blue, red
CF11.004.D [11)]	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
CF11.005.D	4x(2x0.14)	white/brown, green/yellow, grey/pink, blue/red
	4x0.5	black, violet, grey-pink, red-blue
CF11.006.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	yellow-brown/grey-brown/green-black/green-red
	(2x0.5)	brown-red/brown-blue
CF11.007.D [2)]	4x0.34	white, green, brown, yellow (star-quad)
CF11.008.D	3x(2x0.25)	white/brown, green/yellow, grey/pink
CF11.009.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF11.010.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
CF11.011.D	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
CF11.012.D	3x(2x0.14)C	green/yellow, white/grey, blue/red
	(3x0.14)C	red/green/brown
	(4x0.14)	grey/yellow/pink/violet
	(2x0.14+2x0.5)	blue/brown-blue/grey/brown-red
CF11.013.D	3x(2x0.14)C	white/brown, green/yellow, grey/pink
	2x0.5	blue, red
CF11.014.D	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
CF11.015.D	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green

The chainflex® types marked with [2)] are cables designed as a star-quad.
[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

Further cable types ▶ Page 272

EPLAN download, configurators ▶ www.igus.eu/CF11D

CF11.D
TPE
6.8 x d

Guarantee igus chainflex 36 up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

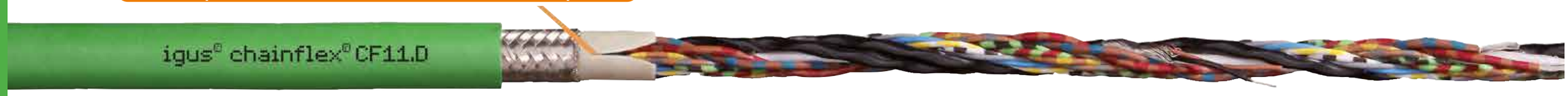
Measuring system cable | TPE | chainflex® CF11.D

Class 6.6.4.1

Basic requirements: low 1 2 3 4 5 **6** 7 highest
Travel distance: unsupported 1 2 3 4 5 **6** ≥ 400m
Oil resistance: none 1 2 3 4 highest
Torsion: none **1** 2 3 4 ±360°

CF11.D
TPE
6.8 x d

Strip cables 50% faster with CFRIP® tear strip



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]
CF11.017.D 4) 11)	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	100	126
CF11.018.D 4)	(2x(2x0.25)+2x0.5)C	6.5	41	51
CF11.019.D 4)	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	93	120
CF11.021.D	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	88	130
CF11.022.D	((2x0.25)+5x0.5)C	7.5	54	79
CF11.025.D	(3x(2x0.14)C+(2x0.5)C)C	10.0	72	123
CF11.027.D	(5x(2x0.14)+2x0.5)C	8.5	52	88
CF11.028.D	(2x(2x0.20)+(2x0.38))C	7.5	44	63
CF11.031.D	(2x(2x0.25)C+2x1.0)C	9.5	69	116
CF11.032.D 5)	3x(2x0.14)C+(3x0.14)C	8.0	35	71
CF11.033.D 5)	4x(2x0.14)C+2x(1.0)C	9.5	64	104
CF11.038.D	(3x(2x0.14)+(2x0.34))C	8.0	36	71

Part No.	Core group	Colour code
CF11.017.D 4) 11)	4x(2x0.14)	red/black, brown/green, yellow/violet, grey/pink
	(4x0.14)C	blue-black/yellow-black/red-black/green-black
	4x1.0	white-green, brown-green, blue, white
CF11.018.D 4)	2x(2x0.25)	red/black, grey/pink
	2x0.5	white, brown
CF11.019.D 4)	3x(2x0.25)C	brown/green, grey/pink, red/black
	(3x0.25)	blue/violet/yellow
	2x1.0	white, brown
CF11.021.D	(4x0.25)	white/brown/grey/black
	3x2x0.25	white/yellow, white/grey, black/orange
	3x2x0.5	black no. 1/black no. 2, black no. 3/black no. 4, black no. 5/black no. 6
CF11.022.D	(2x0.25)	white/brown
	5x0.5	green, yellow, grey, pink, blue
CF11.025.D	3x(2x0.14)C	green/yellow, blue/red, grey/pink
	(2x0.5)	white/brown
CF11.027.D	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red
CF11.028.D	2x(2x0.20)	green/yellow, pink/blue
	(2x0.38)	red/black
CF11.031.D	2x(2x0.25)C	white/brown, green/yellow
	2x1.0	black no. 1, black no. 2
CF11.032.D 5)	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
CF11.033.D 5)	4x(2x0.14)C	yellow/black, red/black, blue/black, green/black
	2x(1.0)C	white, brown
CF11.038.D	3x(2x0.14)	white/brown, green/yellow, grey/pink
	(2x0.34)	blue/red

4) Manufactured without inner jacket
5) Manufactured without overall shield
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

Further cable types ▶ Page 270

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus.eu/cf-case

EPLAN download, configurators ▶ www.igus.eu/CF11D