PVC | iguPUR | PUR | **TPE**

Control cable | TPE | chainflex® CF9

10 million
Guaranteed double strokes

5 x d
Bend radius e-chain®

400 m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	min. 5 x d
	flexible	min. 4 x d
	fixed	min. 3 x d
Temperature	**e-chain® linear**	-35 °C up to +100 °C
	flexible	-50 °C up to +100 °C (following DIN EN 60811-504)
	fixed	-55 °C up to +100 °C (following DIN EN 50305)
v max.	**unsupported**	10 m/s
	gliding	6 m/s
a max.	100 m/s²	
Travel distance	Unsupported travels and up to 400 m for gliding applications, Class 6	
Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

Conductor
Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality TPE mixture.

Core structure
Number of cores < 12: Cores wound in a layer with short pitch length.
Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification
Cores < 0.75 mm²: Colour code in accordance with DIN 47100.
Cores ≥ 0.75 mm²: Black cores with white numbers, one green-yellow core.
CF9.02.03.INI: brown, blue, black
CF9.03.04.INI: brown, blue, black, white
CF9.03.05.INI: brown, blue, black, white, green-yellow
CF9.03.16.07.03.INI:
0.34 mm²: violet/red/grey/red-blue,green/grey-pink/white-green/white-yellow,white-grey/black/yellow-brown/brown-green,white/yellow/pink/grey-brown
0.75 mm²: blue/green-yellow/brown

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)

CFRIP®
Strip cables faster: a tear strip is moulded into the outer jacket
Video ▶ www.igus.eu/CFRIP



Example image

EPLAN download, configurators ▶ www.igus.eu/CF9

Class 7.6.4.2

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	4	±360°			

Electrical information

Nominal voltage 300/500 V (following DIN VDE 0298-3)

Testing voltage 2000 V (following DIN EN 50395)

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/EC (RoHS-II)

Cleanroom According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1

CE Following 2014/35/EU

Guaranteed service life (details see 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	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

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

Typical mechanical application areas

- For heaviest duty applications, Class 7
- Unsupported travels and up to 400 m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, outdoor cranes, low temperature applications


chainflex® CF9 for outdoor crane systems. e-chain®: Series E4/00

CF9
TPE
5 x d

Control cable | TPE | chainflex® CF9

Strip cables 50 % faster

Class 7.6.4.2

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	4				±360°

CF9
TPE
5 x d



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]
CF9.02.02	2x0.25	4.5	5	18
CF9.02.03.INI	3x0.25	4.5	8	21
CF9.02.06	6x0.25	5.5	15	36
CF9.02.07	7x0.25	6.5	18	43
CF9.02.08	8x0.25	6.5	20	49
CF9.02.12	12x0.25	8.0	30	71
CF9.02.18	18x0.25	9.5	45	102
CF9.02.20	20x0.25	9.5	50	109
CF9.02.25	25x0.25	11.0	63	141
CF9.03.04.INI	4x0.34	5.0	14	31
CF9.03.05.INI	5x0.34	5.5	17	37
CF9.03.06	6x0.34	6.0	21	44
CF9.03.08	8x0.34	7.0	28	58
CF9.03.16.07.03.INI	16x0.34+3x0.75	11.0	77	154
CF9.05.02	2x0.5	5.0	10	26
CF9.05.03	3x0.5	5.0	15	31
CF9.05.04	4x0.5	5.5	20	39
CF9.05.05	5x0.5	6.0	25	47
CF9.05.07	7x0.5	7.0	35	64
CF9.05.12	12x0.5	10.0	60	117
CF9.05.18	18x0.5	11.5	90	172
CF9.05.25	25x0.5	13.0	124	227
CF9.05.36	36x0.5	15.5	178	322
CF9.07.04	4G0.75	6.0	30	54
CF9.07.05	5G0.75	6.5	38	66
CF9.07.07	7G0.75	8.0	53	91
CF9.07.12	12G0.75	11.0	90	165
CF9.07.20	20G0.75	13.5	149	257
CF9.07.25	25G0.75	14.5	186	317
CF9.10.03	3G1.0	6.0	30	52
CF9.10.04	4G1.0	6.5	40	67
CF9.10.05	5G1.0	7.5	50	81
CF9.10.12	12G1.0	12.0	119	206
CF9.10.18	18G1.0	14.5	178	302
CF9.10.25	25G1.0	17.0	248	433

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

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.15.02	2x1.5	6.5	30	55
CF9.15.04	4G1.5	7.5	61	87
CF9.15.05	5G1.5	8.0	76	105
CF9.15.07 [17)]	7G1.5	9.5	107	144
CF9.15.12	12G1.5	13.5	179	278
CF9.15.18	18G1.5	16.5	268	395
CF9.15.25	25G1.5	20.0	371	607
CF9.15.36	36G1.5	23.5	530	798
CF9.25.04	4G2.5	9.0	100	152
CF9.25.05	5G2.5	10.0	124	197
CF9.25.07 [17)]	7G2.5	12.0	176	245
CF9.25.12	12G2.5	17.5	297	515
CF9.25.16	16G2.5	19.5	396	687
CF9.25.18 [7)]	18G2.5	23.0	445	830
CF9.25.25	25G2.5	24.5	612	1011
CF9.40.04	4G4.0	10.5	159	218
CF9.60.04	4G6.0	12.5	238	315
CF9.60.05	5G6.0	13.5	297	390
CF9.100.04	4G10	16.5	396	553
CF9.160.04	4G16	18.0	495	685

[7)] Nominal voltage 600/1000 V
[17)] When using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" minimum bend radius must be 17.5 x d with gliding travel distance ≥ 5 m.

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

Order example: CF9.25.04 – to your desired length (0.5 m steps)
CF9 chainflex® series .25 Code nominal cross section .04 Number of cores

Online order ▶ www.chainflex.eu/CF9

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EU04.2019