

Control cable | TPE | chainflex® CF9.UL

36

10 million

Guaranteed double strokes

5 x d

Bend radius e-chain®

400 m

Travel distance, e-chain®

- For extremely heavy duty applications
 - TPE outer jacket
 - Oil and bio-oil-resistant
 - Flame retardant
- PVC-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	-45 °C up to +100 °C (following DIN EN 60811-504)
		fixed	-50 °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.UL.02.03.INI: brown, blue, black CF9.UL.03.04.INI: brown, blue, black, white CF9.UL.03.05.INI: brown, blue, black, white, green-yellow
	Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Slate grey (similar to RAL 7015)
	CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ► www.igus.eu/CFRIP

Electrical information

	Nominal voltage	300/500 V (following DIN VDE 0298-3)
	Testing voltage	2000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6		≥ 400 m
none	1	2	3	4			highest	
none	1	2	3	4			±360°	

Class 6.6.4.2

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
	Flame retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	UL/CSA	Cores < 0.5 mm²: Style 10479 and 21529, 300 V, 90 °C Cores ≥ 0.5 mm²: Style 10258 and 21387, 1000 V, 90 °C
	NFPA	Following NFPA 79-2018, chapter 12.9
	DNV-GL	Type approval certificate No. 61 935-14 HH
	EAC	Certificate No. RU C-DE.ME77.B.01254 (TR ZU)
	CTP	Certificate No. C-DE.PB49.B.00416 (Fire protection)
	CEI	Following CEI 20-35
	Lead-free	Following 2011/65/EC (RoHS-II)
	Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 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 extremely heavy duty applications, Class 6
- 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, Ship to shore, outdoor cranes, low temperature applications



igus® chainflex® CF9.UL

Example image

Control cable | TPE | chainflex® CF9.UL

Strip cables 50 % faster

igus® chainflex® CF9.UL

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.UL.02.02	2x0.25	5.0	5	28
CF9.UL.02.03.INI	3x0.25	5.5	8	32
CF9.UL.02.04	4x0.25	5.5	10	37
CF9.UL.02.06	6x0.25	6.5	15	48
CF9.UL.02.08	8x0.25	7.5	20	63
CF9.UL.02.12	12x0.25	8.5	30	93
CF9.UL.03.04.INI	4x0.34	6.0	14	42
CF9.UL.03.05.INI	5x0.34	6.5	17	52
CF9.UL.03.06	6x0.34	6.5	21	56
CF9.UL.03.08	8x0.34	7.5	28	74
CF9.UL.05.02	2x0.5	6.0	10	42
CF9.UL.05.03	3x0.5	6.5	15	51
CF9.UL.05.04	4x0.5	7.0	20	59
CF9.UL.05.05	5x0.5	7.5	25	69
CF9.UL.05.07	7x0.5	8.5	35	94
CF9.UL.05.12	12x0.5	11.5	60	167
CF9.UL.05.18	18x0.5	13.5	90	234
CF9.UL.05.25 ¹¹⁾	25x0.5	14.5	124	288
CF9.UL.07.05	5G0.75	8.0	38	94
CF9.UL.07.07	7G0.75	9.5	53	130
CF9.UL.07.12	12G0.75	13.0	90	228
CF9.UL.07.25	25G0.75	16.5	186	408
CF9.UL.10.03	3G1.0	7.5	30	77
CF9.UL.10.04	4G1.0	8.0	40	94
CF9.UL.10.12	12G1.0	14.0	119	275
CF9.UL.10.18	18G1.0	16.5	178	393
CF9.UL.10.25	25G1.0	18.5	248	524
CF9.UL.15.04	4G1.5	9.0	60	122
CF9.UL.15.05	5G1.5	9.5	75	146
CF9.UL.15.07 ¹⁷⁾	7G1.5	11.5	104	199
CF9.UL.15.12	12G1.5	16.0	178	372
CF9.UL.15.18	18G1.5	19.0	267	535
CF9.UL.15.25	25G1.5	22.0	371	731

¹¹⁾ Phase-out model

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

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
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Class 6.6.4.2

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.UL.25.04	4G2.5	10.5	100	188
CF9.UL.25.05	5G2.5	11.0	124	231
CF9.UL.25.07 ¹⁷⁾	7G2.5	13.5	174	317
CF9.UL.25.12	12G2.5	19.0	297	600
CF9.UL.25.18	18G2.5	24.0	445	887
CF9.UL.25.25	25G2.5	27.0	612	1151
CF9.UL.40.04	4G4.0	12.0	159	261
CF9.UL.60.04	4G6.0	14.0	238	364

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.UL.02.02** – to your desired length (0.5 m steps)
CF9.UL chainflex® series **.02** Code nominal cross section **.02** Number of cores
-  Online order ► www.chainflex.eu/CF9.UL
-  Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



igus® chainflex® cables in a drilling application.

