

Control cable | TPE | chainflex® CF9.UL

36

Double strokes guaranteed

5 x d

Bend radius, e-chain®

400m

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	minimum 5 x d
		flexible	minimum 4 x d
		fixed	minimum 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	10m/s
	a max.	gliding	6m/s
			100m/s²
	Travel distance	Unsupported travels and up to 400m 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 < 0.75mm²: Colour code in accordance with DIN 47100. Cores ≥ 0.75mm²: 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: braun, blau, schwarz, weiß, grüngelb	
	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	

EPLAN download, configurators ► www.igus.eu/CF9UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2023

Class 6.6.4.2

Basic requirements
Travel distance
Oil resistance
Torsion

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

Electrical information

	Nominal voltage	300/500V (following DIN VDE 0298-3) Cores < 0.5mm²: 300V (following UL) Cores ≥ 0.5mm²: 1000V (following UL)
	Testing voltage	2,000V (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
	Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
	UL/CSA AWM	See data sheet for details ► www.igus.eu/CF9UL
	NFPA	Following NFPA 79-2018, chapter 12.9
	DNV	Type Approval Certificate TAE00003X2
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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 CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1 Following 2014/35/EU
	CE	
	UK CA	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	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

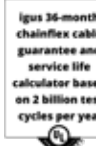
* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical 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
- 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



UL-verified chainflex® guarantee ... www.igus.eu/ul-verified



Control cable | TPE | chainflex® CF9.UL

Strip cables 50% faster with CFRIP® tear strip

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	24
CF9.UL.02.03.INI	3x0.25	5.0	8	28
CF9.UL.02.04	4x0.25	5.5	10	32
CF9.UL.02.06	6x0.25	6.0	15	42
CF9.UL.02.08	8x0.25	7.0	20	57
CF9.UL.02.12	12x0.25	7.5	30	81
CF9.UL.03.04.INI	4x0.34	5.5	14	38
CF9.UL.03.05.INI	5x0.34	6.0	17	46
CF9.UL.03.06	6x0.34	6.5	21	51
CF9.UL.03.08	8x0.34	7.5	28	67
CF9.UL.05.02	2x0.5	5.5	10	35
CF9.UL.05.03	3x0.5	6.0	15	42
CF9.UL.05.04	4x0.5	6.0	20	50
CF9.UL.05.05	5x0.5	6.5	25	56
CF9.UL.05.07	7x0.5	7.5	35	79
CF9.UL.05.12	12x0.5	9.5	60	137
CF9.UL.05.18	18x0.5	12.0	90	201
CF9.UL.07.05	5G0.75	7.0	38	77
CF9.UL.07.07	7G0.75	8.5	53	105
CF9.UL.07.12	12G0.75	11.0	90	191
CF9.UL.07.25	25G0.75	15.0	186	366
CF9.UL.10.03	3G1.0	6.5	30	62
CF9.UL.10.04	4G1.0	7.0	40	78
CF9.UL.10.12	12G1.0	11.5	119	228
CF9.UL.10.18 ¹¹⁾	18G1.0	14.5	178	332
CF9.UL.10.25	25G1.0	16.0	248	447
CF9.UL.15.04	4G1.5	8.0	60	102
CF9.UL.15.05	5G1.5	8.5	75	124
CF9.UL.15.07 ¹⁷⁾	7G1.5	10.0	104	171
CF9.UL.15.12	12G1.5	13.5	178	309
CF9.UL.15.18	18G1.5	16.0	267	449
CF9.UL.15.25	25G1.5	19.0	371	650

¹¹⁾ Phase-out model

¹⁷⁾ When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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

Class 6.6.4.2

Basic requirements
Travel distance
Oil resistance
Torsion

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

Guarantee
igus chainflex
36

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

CFRIP
igus chainflex

UL
UL

UL
UL

nec
nec

NFPA
NFPA

CUPA
CUPA

DNV
DNV

EAC
EAC

REACH
REACH

RoHS
RoHS

clean-room
clean-room

UL
UL

CE
UK
CA

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	9.0	100	159
CF9.UL.25.05	5G2.5	10.0	124	194
CF9.UL.25.07 ¹⁷⁾	7G2.5	12.0	174	270
CF9.UL.25.12	12G2.5	16.0	297	502
CF9.UL.25.18	18G2.5	20.0	445	737
CF9.UL.25.25	25G2.5	23.5	612	1,011
CF9.UL.40.04	4G4.0	10.5	159	231

¹⁷⁾ When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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



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



igus® chainflex® cables in a drilling application.

Guarantee
igus chainflex
36

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



EPLAN download, configurators ► www.igus.eu/CF9UL

124 36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2023

EU2023



UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

125