Motor cable | TPE | chainflex® CF35.UL

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil-resistant, bio-oil-resistant
- Flame retardant
- UV-resistant
- Hydrolysis and microbe-resistant

CFRIP® Strip cables 50 % faster

DESIGN AWARD 2016

Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35 °C to +90 °C
	flexible	-45 °C to +90 °C (following DIN EN 60811-504)
	fixed	-50 °C to +90 °C (following DIN EN 50305)
v max.	**unsupported**	10 m/s
	gliding	6 m/s
a max.		80 m/s²
Travel distance		Unsupported travel distances and up to 400 m and more for gliding applications, Class 6

Cable structure

Conductor
Cores < 10 mm²: Stranded conductor in especially bending-resistant design consisting of bare copper wires (following DIN EN 60228).
Cores ≥ 10 mm²: Conductor consisting of pre-wound conductor bundles (following DIN EN 60228).

Core insulation
Mechanically high-quality, especially low-capacitance TPE mixture.

Core structure
Cores wound with a short pitch length around a high tensile strength centre element.

Core identification
Black cores with white numerals, one core green-yellow.
1. Core: U / L1 / C / L+ 2. Core: V / L2
3. Core: W / L3 / D / L- 4. Core: 4 / N

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 % inear, approx. 90 % optical

Outer jacket
Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: Signal black (similar to RAL 9004)

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

Electrical information

Nominal voltage	600/1000 V (following DIN VDE 0298-3)
Testing voltage	4000 V (following DIN EN 50395)

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**		≥ 400 m
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	±180°				

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	Style 10492 and 21184, 1000 V, 80 °C
NFPA	Following NFPA 79-2012 chapter 12.9.
DNV-GL	Certified according to GL type testing – Certificate no.: 61 938-14 HH
EAC	Certificate no. RU C-DE.ME77.B.02324 (TR ZU)
CTP	Certificate no. C-DE.PB49.B.00420 (Fire safety)
CEI	Following CEI 20-35.
Lead-free	Following 2011/65/EU (RoHS-II).
Cleanroom	According to ISO Class 1. Outer jacket material complies with CF34.UL.25.04.D, 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	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Online lifetime calculation: 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

Guarantee igus chainflex 36 month guarantee

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Strip cables 50% faster

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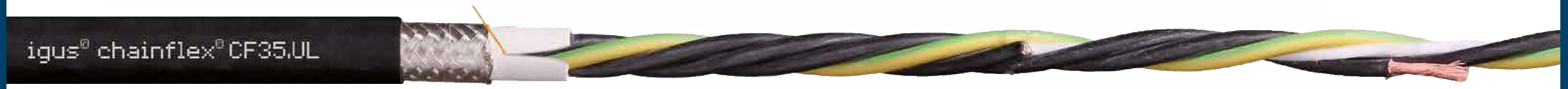
CF35.UL
TPE
7.5 x d



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]
CF35.UL.05.04	(4G0.5)C	8.0	44	88
CF35.UL.07.04	(4G0.75)C	8.5	58	110
CF35.UL.15.04	(4G1.5)C	10.0	94	158
CF35.UL.25.04	(4G2.5)C	11.5	142	223
CF35.UL.40.04	(4G4.0)C	13.5	223	341
CF35.UL.60.04	(4G6.0)C	16.0	326	482
CF35.UL.100.04	(4G10.0)C	19.5	500	721
CF35.UL.160.04	(4G16.0)C	23.0	798	1083
CF35.UL.250.04	(4G25.0)C	27.5	1273	1636
CF35.UL.60.03.O.PE	(3x6.0)C	15.0	256	387
CF35.UL.160.03.O.PE [11)]	(3x16.0)C	21.0	610	848
CF35.UL.250.03.O.PE	(3x25.0)C	25.0	973	1299
CF35.UL.350.03.O.PE	(3x35.0)C	28.5	1318	1797
CF35.UL.500.03.O.PE	(3x50.0)C	33.5	1828	2452

[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

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