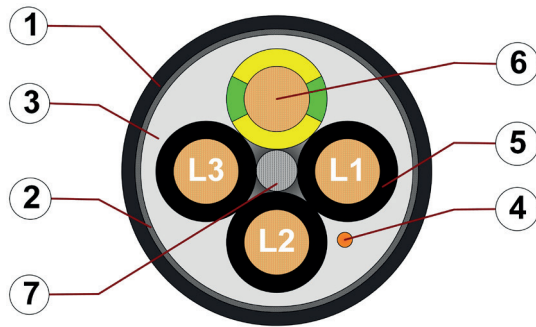


Data sheet

chainflex® CF35.UL



Motor cable (Class 6.6.4.1) ● For extremely heavy duty applications ● TPE outer jacket
 ● Shielded ● Oil and bio-oil resistant ● Flame-retardant ● UV-resistant
 ● Hydrolysis and microbe-resistant



1. Outer jacket: Pressure extruded, flame-retardant TPE mixture
2. Overall shield: Extremely bending-resistant braiding made of tinned copper wires
3. Inner jacket: Pressure extruded, gusset-filling TPE mixture
4. CFRIP: Tear strip for faster cable stripping
5. Core insulation: Mechanically high-quality, especially low-capacitance XLPE mixture
6. Conductor: Especially bending-stable version consisting of bare copper wires
7. Strain relief: Tensile stress-resistant centre element

Example image

For detailed overview please see design table

Cable structure



Conductor

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



Core insulation

Mechanically high-quality, especially low-capacitance XLPE mixture.



Core structure

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



Core identification

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



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: Signal black (similar to RAL 9004)
 Printing: white



CFRIP®

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

„00000 m** igus chainflex CF35.UL.--.① ----② 600/1000V E310776

cRUus AWM Style ③ VW-1 AWM I/II A/B 90°C 1000V FT1 DNV-GL TAE00003X9

EAC/CTP CE RoHS-II conform www.igus.de +++ chainflex cable works +++

* Length printing: Not calibrated. Only intended as an orientation aid.

① / ② Cable identification according to Part No. (see technical table).

③ Printing of the UL style (see related chapter).

Example: ... chainflex CF35.UL.15.04 (4G1.5)C 600/1000V ...



Data sheet

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Dynamic information

	Bend radius	e-chain® linear flexible fixed	minimum 7.5 x d minimum 6 x d minimum 4 x d
	Temperature	e-chain® linear flexible fixed	-35°C up to +90°C -45°C up to +90°C (following DIN EN 60811-504) -50°C up to +90°C (following DIN EN 50305)
	v max.	unsupported gliding	10m/s 6m/s
	a max.		80m/s ²
	Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

Guaranteed service life according to guarantee conditions

Double strokes	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

Minimum guaranteed service life of the cable under the specified conditions.
 The installation of the cable is recommended within the middle temperature range.

Electrical information

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



Example image

igus® chainflex® CF35.UL

Data sheet

chainflex® CF35.UL



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 ● Hydrolysis and microbe-resistant



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)
	PTFE-free	The design of these products does not contain PTFE
	UL-verified	Certificate No. V293650: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
	UL/CSA AWM	Details see table UL/CSA AWM
	NFPA	Following NFPA 79-2018, chapter 12.9
	DNV	Type Approval Certificate TAE00003X9 (Issue 04/2025)
	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
	CE	Following 2014/35/EU



Example image

Data sheet

chainflex® CF35.UL



Motor cable (Class 6.6.4.1) ● For extremely heavy duty applications ● TPE outer jacket
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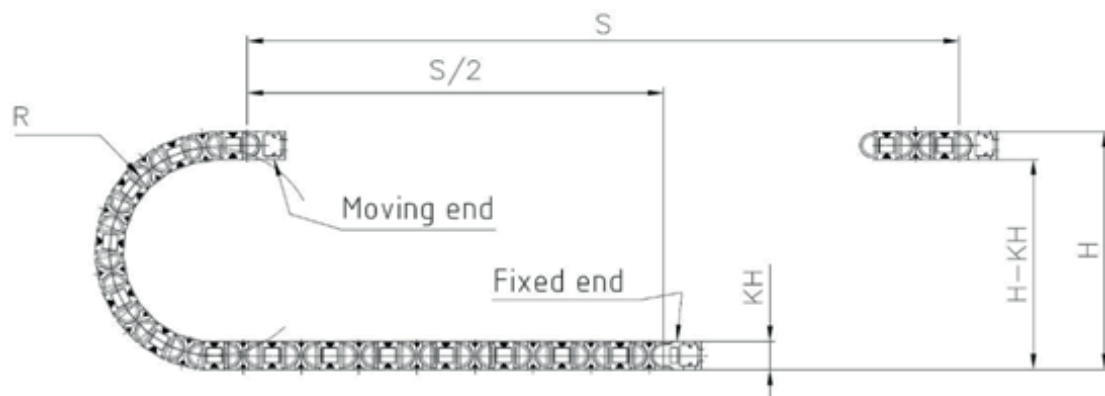
Properties and approvals

UL/CSA AWM Details

Conductor nominal cross section [mm ²]	Number of cores	UL style core insulation	UL style outer jacket	UL Voltage Rating [V]	UL Temperature Rating [°C]
0.5	4	30052	22022	1000	90
0.75	4	30052	22022	1000	90
1.5	4	30052	22022	1000	90
2.5	4	30052	22021	1000	90
4	4	30052	22021	1000	90
6	3-4	30052	22021	1000	90
10	4	30052	22021	1000	90
16	4	30052	22021	1000	90
25	3-4	30052	22021	1000	90

Typical lab test setup for this cable series

Test bend radius R	approx. 55 - 250 mm
Test travel S	approx. 1 - 15 m
Test duration	minimum 2 - 4 million double strokes
Test speed	approx. 0.5 - 2 m / s
Test acceleration	approx. 0.5 - 1.5 m / s ²



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, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications



igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



Example image

igus® chainflex® CF35.UL

Data sheet

chainflex® CF35.UL



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 ● Shielded ● Oil and bio-oil resistant ● Flame-retardant ● UV-resistant
 ● Hydrolysis and microbe-resistant

Technical tables:

Mechanical information

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	7.5	42	79
CF35.UL.07.04	(4G0.75)C	8.0	58	90
CF35.UL.15.04	(4G1.5)C	10.0	89	146
CF35.UL.25.04	(4G2.5)C	11.5	133	207
CF35.UL.40.04	(4G4.0)C	13.0	203	290
CF35.UL.60.04	(4G6.0)C	16.0	288	423
CF35.UL.100.04	(4G10)C	18.5	468	632
CF35.UL.160.04	(4G16)C	23.0	738	974
CF35.UL.250.04	(4G25)C	27.5	1153	1481
CF35.UL.60.03.O.PE ¹⁾	(3x6.0)C	14.5	229	344
CF35.UL.250.03.O.PE ¹⁾	(3x25)C	24.5	880	1163

¹⁾ 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

Electrical information

Conductor nominal cross section [mm²]	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Max. current rating at 30 °C [A]
0.5	39	11
0.75	26	14
1.5	13.3	21
2.5	7.98	30
4	4.95	41
6	3.3	53
10	1.91	74
16	1.21	99
25	0.78	131

The final maximum current rating depends among other things on the ambient conditions, the type of the installation and the number of loaded cores.

Example image
 igus® chainflex® CF35.UL



igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



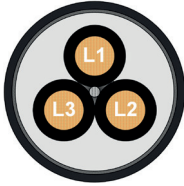
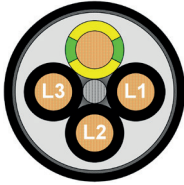
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chainflex® CF35.UL



- Motor cable (Class 6.6.4.1) ● For extremely heavy duty applications ● TPE outer jacket
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 - Hydrolysis and microbe-resistant

Design table

Part No.	Number of cores	Core design
CF35.UL.XX.03.O.PE	3	
CF35.UL.XX.04	4	



Example image

