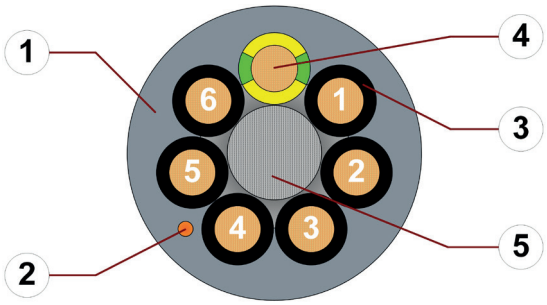
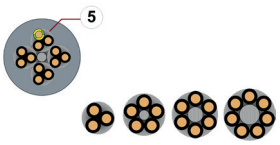
Data sheet
chainflex® CF130.UL

Control cable (Class 4.4.1.2) ● For medium duty applications ● PVC outer jacket ● Flame retardant



Example image





1. Outer jacket: Pressure extruded, gusset-filling PVC mixture
2. CFRIP: Tear strip for faster cable stripping
3. Core insulation: Mechanically high-quality TPE mixture
4. Conductor: Fine-wire strand consisting of bare copper wires
5. Strain relief: Tensile stress-resistant centre element
6. 12 cores or more: Bundles with optimised pitch length and pitch direction

Example image
For detailed overview please see design table

Cable structure

Conductor	Finely stranded conductor 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 < 0.5 mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5 mm²:** Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001) Printing: black
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶ www.igus.eu/CFRIP

„00000 m“ igus chainflex CF130.--.--.UL① -----② ---/---V③ E310776**

cЯUus AWM Style 20200 VW-1 AWM I/II A/B 60°C 300V FT1 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 nominal voltage (see general electrical values).
Example: ... chainflex ... **CF130.02.30.UL** ... **30x0.25** ... **300 V/500 V** ...

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Data sheet
chainflex® CF130.UL

Control cable (Class 4.4.1.2) ● For medium duty applications ● PVC outer jacket ● Flame retardant



Example image

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	+5 °C up to +70 °C -5 °C up to +70 °C (following DIN EN 60811-504) -15 °C up to +70 °C (following DIN EN 50305)
v max.	unsupported gliding	3 m/s 2 m/s
a max.	20 m/s²	
Travel distance	Unsupported travels and up to 50 m for gliding applications, Class 4	
Torsion	± 90°, with 1 m cable length, Class 2	

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]	< 10 m R min. [factor x d]	≥ 10 m R min. [factor x d]	< 10 m R min. [factor x d]	≥ 10 m R min. [factor x d]	< 10 m R min. [factor x d]	≥ 10 m R min. [factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

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

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Data sheet
chainflex® CF130.UL

Control cable (Class 4.4.1.2) ● For medium duty applications ● PVC outer jacket ● Flame retardant



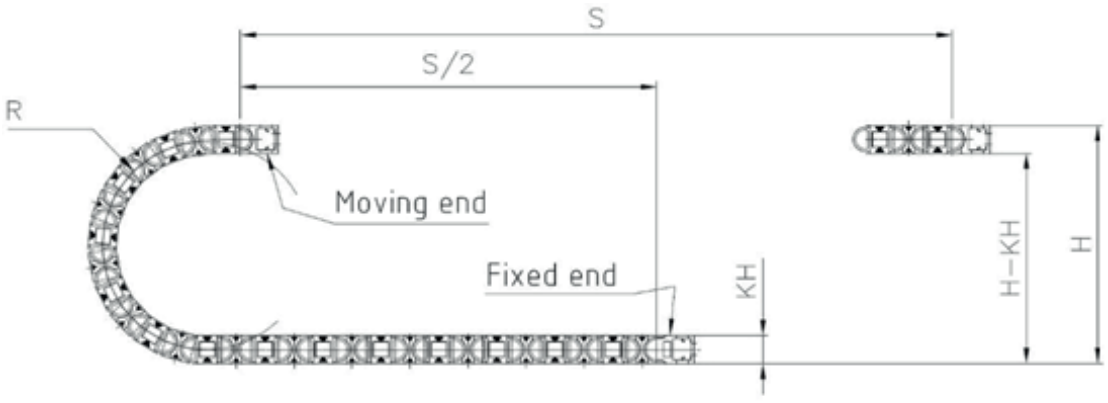
Example image

Properties and approvals

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 10493 and 20200, 300 V, 60 °C
NFPA	Following NFPA 79-2012, chapter 12.9
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)
Clean room	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
CE	Following 2014/35/EU

Typical lab test setup for this cable series

Test bend radius R	approx. 38 - 200 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



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Data sheet
chainflex® CF130.UL

Control cable (Class 4.4.1.2) ● For medium duty applications ● PVC outer jacket ● Flame retardant



Example image

Typical application areas

- For medium duty applications, Class 4
- Unsupported travel distances and up to 50 m for gliding applications, Class 4
- Without influence of oil, Class 1
- Torsion ± 90°, with 1 m cable length, Class 2
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

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Data sheet
chainflex® CF130.UL

Control cable (Class 4.4.1.2) ● For medium duty applications ● PVC outer jacket ● Flame retardant



Example image

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]
CF130.02.03.UL	3x0.25	5.0	8	24
CF130.02.04.UL	4x0.25	5.5	11	29
CF130.02.06.UL	6x0.25	6.0	16	48
CF130.02.07.UL	7x0.25	6.5	19	56
CF130.02.12.UL	12x0.25	8.5	33	96
CF130.02.20.UL	20x0.25	10.5	51	145
CF130.02.25.UL	25x0.25	11.5	66	154
CF130.02.30.UL	30x0.25	12.5	75	184
CF130.03.02.UL	2x0.34	5.0	8	25
CF130.03.05.UL	5x0.34	6.0	18	40
CF130.05.02.UL	2x0.5	5.5	11	38
CF130.05.03.UL	3G0.5	5.5	16	39
CF130.05.04.UL	4G0.5	6.0	21	47
CF130.05.05.UL	5G0.5	6.5	26	55
CF130.05.07.UL	7G0.5	7.5	37	76
CF130.05.12.UL	12G0.5	10.0	63	139
CF130.05.18.UL	18G0.5	12.0	94	183
CF130.05.25.UL	25G0.5	13.5	129	259
CF130.07.02.UL	2x0.75	6.0	15	41
CF130.07.03.UL	3G0.75	6.0	23	49
CF130.07.04.UL	4G0.75	6.5	30	58
CF130.07.05.UL	5G0.75	7.0	38	68
CF130.07.07.UL	7G0.75	8.0	53	95
CF130.07.12.UL	12G0.75	11.0	90	152
CF130.07.18.UL	18G0.75	13.5	134	226
CF130.07.25.UL	25G0.75	16.0	186	342
CF130.07.36.UL	36G0.75	19.0	293	531
CF130.07.42.UL	42G0.75	21.0	341	608
CF130.10.02.UL	2x1.0	6.0	20	51
CF130.10.03.UL	3G1.0	6.5	30	60
CF130.10.04.UL	4G1.0	7.0	40	74
CF130.10.05.UL	5G1.0	7.5	50	89
CF130.10.07.UL	7G1.0	9.0	70	121
CF130.10.12.UL	12G1.0	12.5	119	197
CF130.10.18.UL	18G1.0	15.0	178	278
CF130.10.25.UL	25G1.0	17.5	248	395

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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Data sheet
chainflex® CF130.UL

Control cable (Class 4.4.1.2) ● For medium duty applications ● PVC outer jacket ● Flame retardant



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]
CF130.15.02.UL	2x1.5	7.0	30	62
CF130.15.03.UL	3G1.5	7.0	45	77
CF130.15.04.UL	4G1.5	8.0	60	97
CF130.15.05.UL	5G1.5	8.5	75	115
CF130.15.07.UL [17)]	7G1.5	9.5	104	153
CF130.15.12.UL	12G1.5	13.0	178	275
CF130.15.18.UL	18G1.5	17.5	267	466
CF130.15.25.UL	25G1.5	19.5	371	592
CF130.15.36.UL	36G1.5	23.5	579	887
CF130.15.42.UL [11)]	42G1.5	26.5	729	1084
CF130.25.03.UL	3G2.5	8.5	75	118
CF130.25.04.UL	4G2.5	9.5	100	147
CF130.25.07.UL [17)]	7G2.5	12.0	174	249
CF130.25.12.UL	12G2.5	17.5	297	510
CF130.40.03.UL	3G4.0	10.0	119	187
CF130.40.05.UL	5G4.0	12.0	198	299
CF130.60.04.UL	4G6.0	13.5	238	371
CF130.60.05.UL	5G6.0	14.5	299	471

[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.
[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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Data sheet
chainflex® CF130.UL

Control cable (Class 4.4.1.2) ● For medium duty applications ● PVC outer jacket ● Flame retardant



Example image

Electrical information

Conductor nominal cross section [mm²]	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Maximum current rating at 30 °C (following DIN VDE 0298-4) [A]
0.25	79.0	5
0.34	57.0	7
0.5	39.0	10
0.75	26.0	14
1	19.5	17
1.5	13.3	21
2.5	8.0	30
4	4.95	41
6	3.3	53

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

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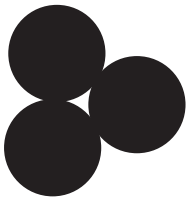
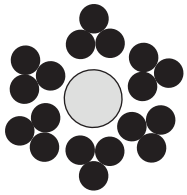
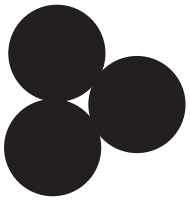
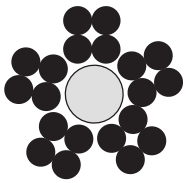
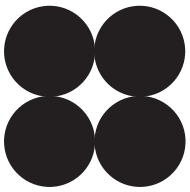
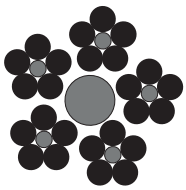
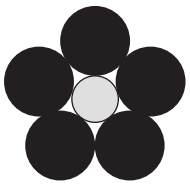
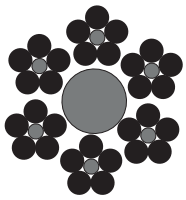
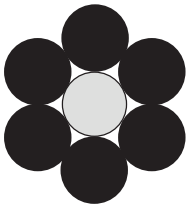
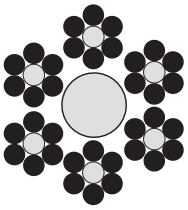
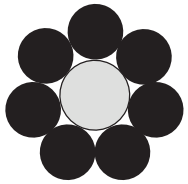
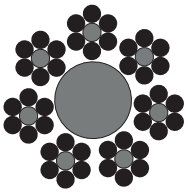
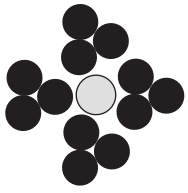
Data sheet
chainflex® CF130.UL

Control cable (Class 4.4.1.2) ● For medium duty applications ● PVC outer jacket ● Flame retardant



Example image

Design table

Part No.	Number of cores	Core design	Part No.	Number of cores	Core design
CF130.XX.02.UL	2		CF130.XX.18.UL	6x3	
CF130.XX.03.UL	3		CF130.XX.20.UL	5x4	
CF130.XX.04.UL	4		CF130.XX.25.UL	5x5	
CF130.XX.05.UL	5		CF130.XX.30.UL	6x5	
CF130.XX.06.UL	6		CF130.XX.36.UL	6x6	
CF130.XX.07.UL	7		CF130.XX.42.UL	7x6	
CF130.XX.12.UL	4x3				

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Data sheet
chainflex® CF130.UL

Control cable (Class 4.4.1.2) ● For medium duty applications ● PVC outer jacket ● Flame retardant



Example image

Colour code in accordance with DIN 47100.

Conductor no.	Colours according to DIN ISO 47100
1	white
2	brown
3	green
4	yellow
5	grey
6	pink
7	blue
8	red
9	black
10	violet
11	grey-pink
12	red-blue
13	white-green
14	brown-green
15	white-yellow
16	brown-yellow
17	white-grey
18	brown-grey
19	white-pink
20	white-brown
21	white-blue

Conductor no.	Colours according to DIN ISO 47100
22	brown-blue
23	white-red
24	brown-red
25	white-black
26	brown-black
27	grey-green
28	yellow-grey
29	pink-green
30	yellow-pink
31	green-blue
32	yellow-blue
33	green-red
34	yellow-red
35	green-black
36	yellow-black
37	grey-blue
38	pink-blue
39	grey-red
40	pink-red
41	grey-black
42	pink-black

Conductor no.	Colours according to DIN ISO 47100
43	blue-black
44	red-black
45	white-brown-black
46	yellow-green-black
47	grey-pink-black
48	red-blue-black
49	white-green-black
50	brown-green-black
51	white-yellow-black
52	yellow-brown-black
53	white-grey-black
54	grey-brown-black
55	white-pink-black
56	pink-brown-black
57	white-blue-black
58	brown-blue-black
59	white-red-black
60	brown-red-black
61	black-white

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Control cable | PVC | chainflex® CF130.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

50 m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Flame retardant



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**	+5 °C up to +70 °C
	flexible	-5 °C up to +70 °C (following DIN EN 60811-504)
	fixed	-15 °C up to +70 °C (following DIN EN 50305)
v max.	**unsupported**	3 m/s
	gliding	2 m/s
a max.		20 m/s²
Travel distance		Unsupported travels and up to 50 m for gliding applications, Class 4
Torsion		± 90°, with 1 m cable length, Class 2

Cable structure

Conductor	Finely stranded conductor 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 < 0.5 mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5 mm²:** Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶ www.igus.co.uk/CFRIP

Electrical information

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

Class 4.4.1.2

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	±180°			

Properties and approvals

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 10493 and 20200, 300 V, 60 °C
NFPA	Following NFPA 79-2012, chapter 12.9
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)
Clean room	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]	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

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

Typical application areas

- For medium duty applications, Class 4
- Unsupported travel distances and up to 50 m for gliding applications, Class 4
- Without influence of oil, Class 1
- Torsion ± 90°, with 1 m cable length, Class 2
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment



chainflex® CF130.UL for woodworking.
e-chain®: E4/light

CF130.UL
PVC
7.5 x d

Control cable | PVC | chainflex® CF130.UL

Strip cables 50% faster

Class 4.4.1.2

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	±180°			

CF130.UL
PVC
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]
CF130.02.03.UL	3x0.25	5.0	8	24
CF130.02.04.UL	4x0.25	5.5	11	29
CF130.02.06.UL	6x0.25	6.0	16	48
CF130.02.07.UL	7x0.25	6.5	19	56
CF130.02.12.UL	12x0.25	8.5	33	96
CF130.02.20.UL	20x0.25	10.5	51	145
CF130.02.25.UL	25x0.25	11.5	66	154
CF130.02.30.UL	30x0.25	12.5	75	184
CF130.03.02.UL	2x0.34	5.0	8	25
CF130.03.05.UL	5x0.34	6.0	18	40
CF130.05.02.UL	2x0.5	5.5	11	38
CF130.05.03.UL	3G0.5	5.5	16	39
CF130.05.04.UL	4G0.5	6.0	21	47
CF130.05.05.UL	5G0.5	6.5	26	55
CF130.05.07.UL	7G0.5	7.5	37	76
CF130.05.12.UL	12G0.5	10.0	63	139
CF130.05.18.UL	18G0.5	12.0	94	183
CF130.05.25.UL	25G0.5	13.5	129	259
CF130.07.02.UL	2x0.75	6.0	15	41
CF130.07.03.UL	3G0.75	6.0	23	49
CF130.07.04.UL	4G0.75	6.5	30	58
CF130.07.05.UL	5G0.75	7.0	38	68
CF130.07.07.UL	7G0.75	8.0	53	95
CF130.07.12.UL	12G0.75	11.0	90	152
CF130.07.18.UL	18G0.75	13.5	134	226
CF130.07.25.UL	25G0.75	16.0	186	342
CF130.07.36.UL	36G0.75	19.0	293	531
CF130.07.42.UL	42G0.75	21.0	341	608
CF130.10.02.UL	2x1.0	6.0	20	51
CF130.10.03.UL	3G1.0	6.5	30	60
CF130.10.04.UL	4G1.0	7.0	40	74
CF130.10.05.UL	5G1.0	7.5	50	89
CF130.10.07.UL	7G1.0	9.0	70	121
CF130.10.12.UL	12G1.0	12.5	119	197
CF130.10.18.UL	18G1.0	15.0	178	278
CF130.10.25.UL	25G1.0	17.5	248	395

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]
CF130.15.02.UL	2x1.5	7.0	30	62
CF130.15.03.UL	3G1.5	7.0	45	77
CF130.15.04.UL	4G1.5	8.0	60	97
CF130.15.05.UL	5G1.5	8.5	75	115
CF130.15.07.UL [17]	7G1.5	9.5	104	153
CF130.15.12.UL	12G1.5	13.0	178	275
CF130.15.18.UL	18G1.5	17.5	267	466
CF130.15.25.UL	25G1.5	19.5	371	592
CF130.15.36.UL	36G1.5	23.5	579	887
CF130.15.42.UL [11]	42G1.5	26.5	729	1084
CF130.25.03.UL	3G2.5	8.5	75	118
CF130.25.04.UL	4G2.5	9.5	100	147
CF130.25.07.UL [17]	7G2.5	12.0	174	249
CF130.25.12.UL	12G2.5	17.5	297	510
CF130.40.03.UL	3G4.0	10.0	119	187
CF130.40.05.UL	5G4.0	12.0	198	299
CF130.60.04.UL	4G6.0	13.5	238	371
CF130.60.05.UL	5G6.0	14.5	299	471

[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

Order example: CF130.05.02.UL – to your desired length (0.5 m steps)
CF130.UL chainflex® series .05 Code nominal cross section .02 Number of cores

Online order ▶ www.chainflex.co.uk/CF130.UL

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