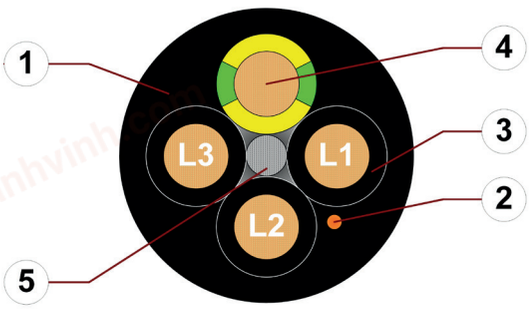
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Data sheet
chainflex® CF30

Motor cable (Class 5.5.2.2) ● For heavy duty applications ● PVC outer jacket ● Oil-resistant ● Flame retardant



Example image



1. Outer jacket: Pressure extruded, gusset-filling, oil-resistant PVC mixture
2. CFRIP: Tear strip for faster cable stripping
3. Core insulation: Mechanically high-quality, especially low-capacitance TPE mixture
4. Conductor: Especially bending-stable version consisting of bare copper wires
5. 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 TPE 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- 4. Core: 4 / N

Outer jacket
Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1).
Colour: Jet black (similar to RAL 9005)
Printing: white

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

„00000 m“* igus chainflex CF30.--.--① ----② 600/1000V E310776

cЯUus AWM Style 2570 VW-1 AWM I/II A/B 80°C 1000V 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).
Example: ... chainflex ... **CF30.15.04** ... **4G1.5** ... **600/1000V** ...

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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	10 m/s
		gliding	5 m/s
a max.		80 m/s²	
Travel distance		Unsupported travels and up to 100 m for gliding applications, Class 5	
Torsion		Torsion ± 90°, with 1 m cable length	

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. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	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	600/1000 V (following DIN VDE 0298-3)
Testing voltage	4000 V (following DIN EN 50395)

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Example image

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
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 2570, 1000 V, 80 °C
NFPA	Following NFPA 79-2012, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
CEI	Following CEI 20-35
Lead-free	Following 2011/65/EC (RoHS-II)
Clean room	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

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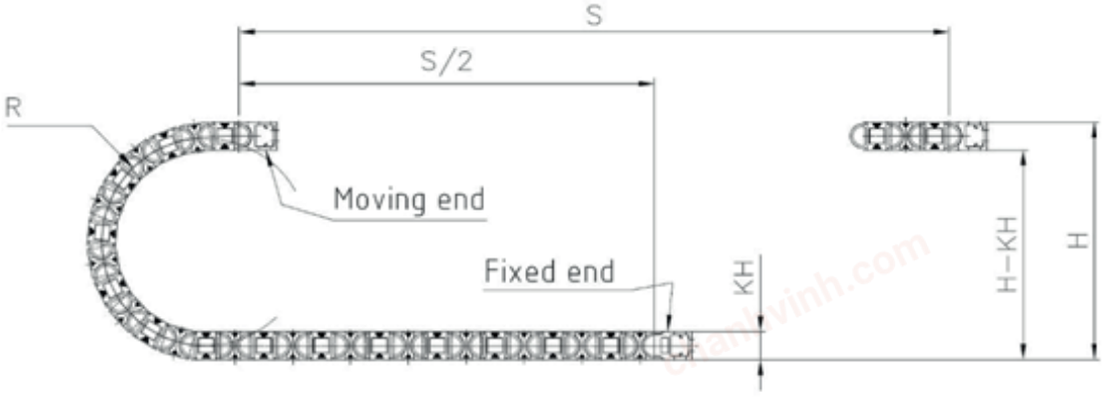
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Example image

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 5
- Unsupported travel distances and up to 100 m for gliding applications, Class 5
- Light oil influence, Class 2
- Torsion ± 90°, with 1 m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes

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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]
CF30.15.04	4G1.5	8.5	61	103
CF30.25.04	4G2.5	10.5	100	168
CF30.25.05	5G2.5	11.5	124	203
CF30.40.04	4G4.0	12.0	163	236
CF30.40.05	5G4.0	13.0	204	301
CF30.60.04	4G6.0	14.0	237	337
CF30.60.05	5G6.0	15.5	297	425
CF30.100.04	4G10	17.5	407	570
CF30.100.05	5G10	20.0	510	727
CF30.160.04	4G16	21.0	646	869
CF30.160.05	5G16	24.0	815	1102
CF30.250.04	4G25	25.5	1014	1340
CF30.350.04	4G35	29.0	1439	1674
CF30.500.04	4G50	35.0	2061	2607

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]	Maximum current rating at 30 °C (following DIN VDE 0298-4) [A]
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
35	0.56	162
50	0.39	202

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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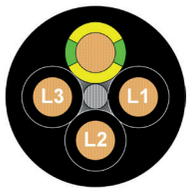
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Example image

Design table

Part No.	Number of cores	Core design
CF30.XX.04	4	
CF30.XX.05	5	

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