

Motor cable | PVC | chainflex® CF31

**10 million**
Guaranteed double strokes**7.5 x d**
Bend radius, e-chain®**100 m**
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

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/s ²



Travel distance Unsupported travels and up to 100 m for gliding applications, Class 5

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- 4. Core: 4 / N



Inner jacket PVC 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, 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)



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)
1000 V (following UL)



Testing voltage 4000 V (following DIN EN 50395)

EPLAN download, configurators ► www.igus.eu/CF31

36 month guarantee ... 1,354 types from stock ... no cutting charges



Class 5.5.2.1

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, FT1, VW-1
	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/CF31
	NFPA	Following NFPA 79-2018, chapter 12.9
	EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	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 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

Guaranteed service life (details see page 26-27)

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

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

Typical mechanical application areas

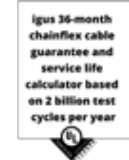
- For heavy duty applications, Class 5
- Unsupported travels and up to 100 m for gliding applications, Class 5
- Light oil influence, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, quick handling, indoor cranes



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Basic requirements
Travel distance
Oil resistance
Torsion

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



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Strip cables 50 % faster

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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]
CF31.15.04	(4G1.5)C	10.0	89	157
CF31.25.04	(4G2.5)C	11.5	133	221
CF31.25.05	(5G2.5)C	13.0	163	271
CF31.40.04	(4G4.0)C	13.0	203	300
CF31.40.05	(5G4.0)C	14.5	258	354
CF31.60.04	(4G6.0)C	16.0	288	455
CF31.60.05	(5G6.0)C	17.0	356	532
CF31.100.04	(4G10)C	18.5	468	670
CF31.100.05	(5G10)C	21.5	609	857
CF31.160.04	(4G16)C	23.0	738	1035
CF31.250.04	(4G25)C	27.5	1153	1586
CF31.350.04	(4G35)C	31.0	1592	2104
CF31.500.04	(4G50)C	36.5	2224	2902
CF31.700.04	(4G70)C	43.0	3203	4173

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: **CF31.15.04** – to your desired length (0.5 m steps)
CF31 chainflex® series **.15** Code nominal cross section **.04** Number of cores

Online order ► www.chainflex.eu/CF31

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

cost down...



...life up

Reduce cost, improve technology, now!

Do the chainflex® price check now ...

www.igus.eu/cf-price-check

... for example: Reduce cost with CF886

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36 month guarantee ... 1,354 types from stock ... no cutting charges

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

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chainflex® CF31 motor cable in a fast pick-and-place machine

CE



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

