



10 million

Double strokes guaranteed



7.5 x d

Bend radius, e-chain®



100m

Travel distance, e-chain®

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

Now with 90°C
UL/CSA AWM
approval

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

10m/s



a max.

gliding

5m/s



Travel distance

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

Cable structure



Conductor

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

Cores ≥ 10mm²: Conductor cable consisting of pre-leads (following DIN EN 60228). Mechanically high-quality, especially low-capacitance XLPE mixture.



Core insulation



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.sk/CFRIP

Electrical information



Nominal voltage

600/1,000V (following DIN VDE 0298-3)

1,000V (following UL)



Testing voltage

4,000V (following DIN EN 50395)

4-year guarantee ... more than 1,350 cable types from stock ... no cutting costs

Basic requirements
Travel distance
Oil resistance
Torsion

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

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, 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

See data sheet for details ► www.igus.sk/CF31

NFPA

Following NFPA 79-2018, chapter 12.9



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

Following 2014/35/EU



Guaranteed service life (details see page 14-15)

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]
+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.sk/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/package machines, quick handling, indoor cranes



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

igus® chainflex® CF31

Image exemplary

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]	Shop and prices online
CF31.15.04	(4G1.5)C	10.0	89	157	 www.igus.sk/ CF31
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 required length (0.5m steps)**
CF31 chainflex® series .15 Code nominal cross section .04 Number of cores

 Order online ► www.igus.sk/CF31

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



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this online: www.igus.sk/cf-case



chainflex® CF31 motor cable in a fast picker



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



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