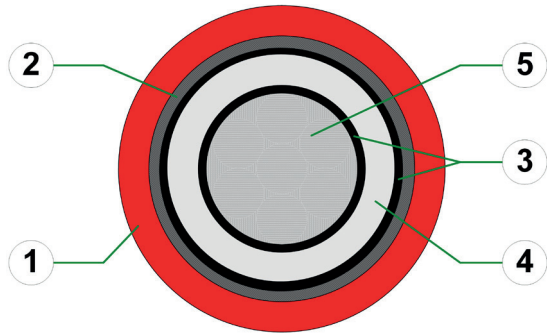


# Data sheet

## chainflex® CFCRANE



Medium voltage cable (Class 6.6.3.1) ● For maximum voltages and outputs ● igupren outer jacket ● Shielded ● Oil-resistant ● Flame-retardant



1. Outer jacket: Pressure extruded, especially abrasion-resistant and highly bending-stable igupren mixture
2. Overall shield: Extremely bending-resistant wrapping made of tinned copper wires
3. Core insulation: Conductive rubber
4. Core insulation: Extruded EPR insulation between conductive rubber
5. Conductor: Conductor rope in especially bending-stable version consisting of tinned copper wires



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

**Example image**  
For detailed overview please see design table

### Cable structure



**Conductor**

Highly-flexible cable consisting of tinned copper wires (according to DIN EN 60228).



**Core insulation**

Inner and outer semiconducting layer made of conductive rubber. Insulating sheath made of highly-quality, heat-resistant and ozone-proof ethylene propylene rubber (EPR).



**Overall shield**

Extremely bending-resistant tinned copper shield.  
Coverage approx. 95 % optical



**Outer jacket**

Low-adhesion iguprene mixture, especially abrasion resistant, adapted to suit the requirements in e-chains® (following VDE 0207, Part 21).

**Colour:** Red

**Printing:** Embossing

igus chainflex CFCRANE---① 6/10 kV NTMCGCWOEUS

<VDE> RoHS-II conform www.igus.de +++ chainflex cable works +++

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

Example: ... chainflex CFCRANE 1x95/16-6/10kV ...



Example image

igus® chainflex® CFCRANE

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### Dynamic information

	<b>Bend radius</b>	<b>e-chain® linear</b> <b>flexible</b> <b>fixed</b>	minimum 10 x d minimum 8 x d minimum 5 x d
	<b>Temperature</b>	<b>e-chain® linear</b> <b>flexible</b> <b>fixed</b>	-20 °C up to +80 °C -25 °C up to +80 °C (following DIN EN 60811-504) -30 °C up to +80 °C (following DIN EN 50305)
	<b>v max.</b>	<b>unsupported</b> <b>gliding</b>	10 m/s 6 m/s
	<b>a max.</b>		50 m/s <sup>2</sup>
	<b>Travel distance</b>		Unsupported travels and up to 400 m 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
<b>Temperature, from/to [°C]</b>	<b>R min. [factor x d]</b>	<b>R min. [factor x d]</b>	<b>R min. [factor x d]</b>
-20/-10	12.5	13.5	14.5
-10/+70	10	11	12
+70/+80	12.5	13.5	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

	<b>Nominal voltage</b>	6/10 kV (following DIN VDE 0250), other voltages upon request.
	<b>Testing voltage</b>	17 kV (in Anlehnung an DIN VDE 0250, Teil 813)



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



Example image











# Data sheet

## chainflex® CFCRANE



Medium voltage cable (Class 6.6.3.1) ● For maximum voltages and outputs ● igupren outer jacket ● Shielded ● Oil-resistant ● Flame-retardant

### Properties and approvals

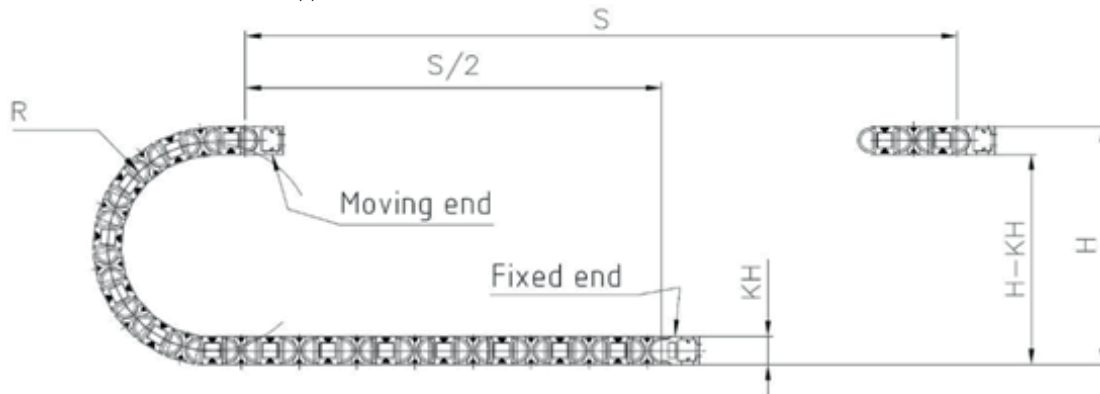
	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 60811-404)
	Flame retardant	According to IEC 60332-1-2
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
	REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
	Lead-free	Following 2011/65/EC (RoHS-II/ RoHS-III)
	CE	Following 2014/35/EU



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

### Typical lab test setup for this cable series

Test bend radius R	approx. 250 - 300 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 <sup>2</sup>



### Typical mechanical application areas

- For maximum voltages and outputs, Class 6
- Unsupported travel distances and up to 400 m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Ship to shore, crane applications, Conveyor technique

Example image

igus® chainflex® CFCRANE



# Data sheet

## chainflex® CFCRANE



Medium voltage cable (Class 6.6.3.1) ● For maximum voltages and outputs ● igupren outer jacket ● Shielded ● Oil-resistant ● Flame-retardant

### Technical tables:

#### Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm <sup>2</sup> ]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCRANE 1x25/16-6/10kV	(1x25/16)C	24.5	496	594
CFCRANE 1x35/16-6/10kV	(1x35/16)C	26.5	625	1012
CFCRANE 1x50/16-6/10kV	(1x50/16)C	29.5	771	1235
CFCRANE 1x70/16-6/10kV	(1x70/16)C	30.5	992	1499
CFCRANE 1x95/16-6/10kV	(1x95/16)C	32.5	1260	1675
CFCRANE 1x120/16-6/10kV	(1x120/16)C	34.5	1528	2030
CFCRANE 1x150/25-6/10kV	(1x150/25)C	36.5	1846	2416
CFCRANE 1x185/25-6/10kV	(1x185/25)C	38.5	2066	2801

**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 [mm <sup>2</sup> ]	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]
25	0.795	131
35	0.565	162
50	0.393	202
70	0.277	250
95	0.210	301
120	0.164	352
150	0.132	404
185	0.108	461

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

Short circuit capacity ( $I_{thz}$ ) according to DIN VDE 0298-4 (at  $T_{Conductor} = 80 °C$  and  $T_{Short\ circuit} = 200 °C$ )

Conductor nominal cross section ( $S_n$ ) [mm <sup>2</sup> ]	Short circuit capacity ( $I_{thz}$ ) [kA] [ $t_k = 1$ s]	Short circuit capacity ( $I_{thz}$ ) [kA] [ $t_k = 0,5$ s]
25	3.2	4.5
35	4.5	6.3
50	6.4	9.1
70	9.0	12.7
95	12.2	17.2
120	15.4	21.7
150	19.2	27.5
185	23,7	33,5

$J_{thr}$ : Short-time current density = 128 A/mm<sup>2</sup>  
 $S_n$ : Nominal cross section  
 $t_{kr}$ : Rated short-circuit duration = 1 s  
 $t_k$ : Short-circuit duration

$$I_{thz} = J_{thr} \cdot S_n \cdot \sqrt{\frac{t_{kr}}{t_k}}$$



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



Example image  
igus® chainflex® CFCRANE