

## Control cable | PVC | chainflex® CF5



**10 million**  
Double strokes guaranteed



**6.8 x d**  
Bend radius, e-chain®



**100m**  
Travel distance, e-chain®

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

### Dynamic information



|             |                 |                                               |
|-------------|-----------------|-----------------------------------------------|
| Bend radius | e-chain® linear | minimum 6.8 x d                               |
|             | flexible        | minimum 5 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                                         |
|             | gliding         | 5m/s                                          |
| a max.      |                 | 80m/s <sup>2</sup>                            |



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



Torsion      Torsion ±90°, with 1m cable length, Class 2

### Cable structure



Conductor      Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).



Core insulation      Cores ≤ 0.5mm<sup>2</sup>: mechanically high-quality TPE mixture.  
Cores ≥ 0.75mm<sup>2</sup>: mechanically high-quality PVC 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 < 0.5mm<sup>2</sup>: Colour code in accordance with DIN 47100.



Outer jacket      Cores ≥ 0.5mm<sup>2</sup>: Black cores with white numbers, one green-yellow core.  
Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1).  
Colour: Moss green (similar to RAL 6005)



CFRIP®      Strip cables faster: a tear strip is moulded into the outer jacket  
Video ► [www.igus.eu/CFRIP](http://www.igus.eu/CFRIP)

### Electrical information



Nominal voltage      300/500V (following DIN VDE 0298-3)  
600V (following UL)



Testing voltage      2,000V (following DIN EN 50395)

EPLAN download, configurators ► [www.igus.eu/CF5](http://www.igus.eu/CF5)

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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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 | ≥ 400m |         |
| none        | 1 | 2 | 3 | 4 | highest |   |        |         |
| none        | 1 | 2 | 3 | 4 | ±360°   |   |        |         |

## Class 5.5.2.2

### 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)



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/CF5](http://www.igus.eu/CF5)



NFPA      Following NFPA 79-2018, chapter 12.9



EAC      Certificate No. RU C-DE.ME77.B.00300/19



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, material/cable tested by IPA according to ISO standard 14644-1  
Following 2014/35/EU



UKCA      In accordance with the valid regulations of the United Kingdom (as at 08/2021)

### Guaranteed service life (details see page 28-29)

| Double strokes*           | 5 million           |                     | 7.5 million         |                     | 10 million          |                     |
|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                           | < 10m               | ≥ 10m               | < 10m               | ≥ 10m               | < 10m               | ≥ 10m               |
| Temperature, from/to [°C] | 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                    | 7.5                 | 10                  | 8.5                 | 11                  | 9.5                 | 12                  |
| +15/+60                   | 6.8                 | 7.5                 | 7.8                 | 8.5                 | 8.8                 | 9.5                 |
| +60/+70                   | 7.5                 | 10                  | 8.5                 | 11                  | 9.5                 | 12                  |

\* Higher number of double strokes? Service life calculation online ► [www.igus.eu/chainflexlife](http://www.igus.eu/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
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes



UL-verified chainflex® guarantee ... [www.igus.eu/ul-verified](http://www.igus.eu/ul-verified)

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Example image

CF5  
PVC  
6.8 x d

PVC

iguPUR

PUR

TPE

Control cable | PVC | chainflex® CF5

Strip cables 50% faster with CFRIP® tear strip

igus® chainflex® CF5

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] |
|--------------------------|-----------------------------------------------------------|------------------------------|----------------------|----------------|
| CF5.02.36                | 36x0.25                                                   | 15.0                         | 99                   | 209            |
| CF5.03.15                | 15x0.34                                                   | 11.0                         | 55                   | 113            |
| CF5.03.18                | 18x0.34                                                   | 12.0                         | 67                   | 143            |
| CF5.03.25                | 25x0.34                                                   | 14.0                         | 92                   | 194            |
| CF5.05.02                | 2x0.5                                                     | 6.0                          | 11                   | 38             |
| CF5.05.03                | 3G0.5                                                     | 6.0                          | 16                   | 41             |
| CF5.05.04                | 4G0.5                                                     | 6.5                          | 21                   | 47             |
| CF5.05.05                | 5G0.5                                                     | 7.0                          | 25                   | 59             |
| CF5.05.07                | 7G0.5                                                     | 8.0                          | 36                   | 78             |
| CF5.05.12                | 12G0.5                                                    | 11.0                         | 61                   | 131            |
| CF5.05.18                | 18G0.5                                                    | 13.0                         | 91                   | 190            |
| CF5.05.25                | 25G0.5                                                    | 16.0                         | 124                  | 281            |
| CF5.05.30                | 30G0.5                                                    | 18.0                         | 149                  | 325            |
| CF5.07.03                | 3G0.75                                                    | 6.5                          | 23                   | 54             |
| CF5.07.04                | 4G0.75                                                    | 7.0                          | 32                   | 67             |
| CF5.07.05                | 5G0.75                                                    | 7.5                          | 39                   | 82             |
| CF5.07.07                | 7G0.75                                                    | 9.0                          | 56                   | 115            |
| CF5.07.12                | 12G0.75                                                   | 12.5                         | 91                   | 189            |
| CF5.07.18                | 18G0.75                                                   | 15.0                         | 134                  | 269            |
| CF5.07.25                | 25G0.75                                                   | 17.5                         | 190                  | 384            |
| CF5.07.36                | 36G0.75                                                   | 22.0                         | 267                  | 587            |
| CF5.07.42                | 42G0.75                                                   | 23.5                         | 313                  | 745            |
| CF5.10.03                | 3G1.0                                                     | 6.5                          | 31                   | 56             |
| CF5.10.04                | 4G1.0                                                     | 7.0                          | 41                   | 78             |
| CF5.10.05                | 5G1.0                                                     | 8.0                          | 50                   | 94             |
| CF5.10.07                | 7G1.0                                                     | 9.5                          | 74                   | 130            |
| CF5.10.12                | 12G1.0                                                    | 13.0                         | 119                  | 227            |
| CF5.10.18                | 18G1.0                                                    | 16.5                         | 179                  | 306            |
| CF5.10.25                | 25G1.0                                                    | 19.5                         | 248                  | 487            |
| CF5.15.03                | 3G1.5                                                     | 7.5                          | 46                   | 74             |
| CF5.15.04                | 4G1.5                                                     | 8.0                          | 61                   | 105            |
| CF5.15.05                | 5G1.5                                                     | 9.0                          | 75                   | 127            |
| CF5.15.07 <sup>17)</sup> | 7G1.5                                                     | 10.5                         | 105                  | 180            |
| CF5.15.12                | 12G1.5                                                    | 15.0                         | 179                  | 264            |
| CF5.15.18                | 18G1.5                                                    | 19.5                         | 267                  | 478            |
| CF5.15.25                | 25G1.5                                                    | 21.5                         | 371                  | 645            |
| CF5.15.36                | 36G1.5                                                    | 26.5                         | 529                  | 960            |

<sup>17)</sup> When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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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Basic requirements

Travel distance

Oil resistance

Torsion

low

unsupported

none

none

1

2

3

4

5

6

7

highest

≥ 400m

highest

±360°

Class 5.5.2.2

| Part No.                 | Number of cores and conductor nominal cross section [mm²] | Outer diameter (d) max. [mm] | Copper index [kg/km] | Weight [kg/km] |
|--------------------------|-----------------------------------------------------------|------------------------------|----------------------|----------------|
| CF5.25.04                | 4G2.5                                                     | 10.0                         | 96                   | 170            |
| CF5.25.05                | 5G2.5                                                     | 11.0                         | 120                  | 200            |
| CF5.25.07 <sup>17)</sup> | 7G2.5                                                     | 13.0                         | 169                  | 279            |
| CF5.25.12                | 12G2.5                                                    | 18.5                         | 284                  | 480            |
| CF5.25.18                | 18G2.5                                                    | 23.5                         | 427                  | 765            |
| CF5.25.25                | 25G2.5                                                    | 27.5                         | 591                  | 1054           |

<sup>17)</sup> When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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

chainflex CASE

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 on page 24/25 and online: [www.igus.eu/cf-case](http://www.igus.eu/cf-case)

chainflex® CF5/CF6 for storage retrieval unit: Long travel in longitudinal axis.  
e-chain®: Series E4/00 with igus® guide trough made of steel

Guarantee

igus chainflex

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up to 36 months guarantee

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

UL-verified chainflex® guarantee ... [www.igus.eu/ul-verified](http://www.igus.eu/ul-verified)

CF5  
PVC  
6.8 x d

Guarantee

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

CF5  
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