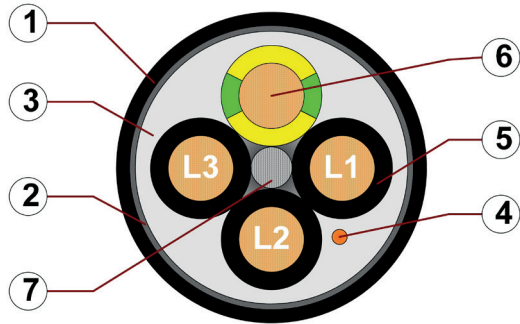


Data sheet

chainflex® CF38



Motor cable (Class 7.6.4.1) ● For heaviest duty applications ● TPE outer jacket ● Shielded
 ● Oil and bio-oil resistant ● PVC and halogen-free ● UV-resistant ● Hydrolysis and microbe-resistant



1. Outer jacket: Pressure extruded, halogen-free TPE mixture
2. Overall shield: Extremely bending-resistant braiding made of tinned copper wires
3. Inner jacket: Pressure extruded, gusset-filling TPE mixture
4. CFRIP: Tear strip for faster cable stripping
5. Core insulation: Mechanically high-quality, especially low-capacitance XLPE mixture
6. Conductor: Especially bending-stable version consisting of bare copper wires
7. 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 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 | TPE mixture adapted to suit the requirements in e-chains®. |
| | Overall shield | Extremely bending-resistant braiding made of tinned copper wires. Coverage approx. 70 % linear, approx. 90 % optical |
| | Outer jacket | Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Jet black (similar to RAL 9005) Printing: white |
| | CFRIP® | Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus.eu/CFRIP |

„00000 m“* igus chainflex CF38.--① ----② 600/1000V E310776

RU AWM Style 22351 90°C 1000V EAC CE UKCA RoHS-II conform

www.igus.eu +++ 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 ... CF38.15.04 ... (4G1.5)C ... 600/1000V ...



Example image

Data sheet

chainflex® CF38



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Dynamic information

| | | | |
|---|------------------------|---|---|
|  | Bend radius | e-chain® linear flexible fixed | minimum 7.5 x d minimum 6 x d minimum 4 x d |
|  | Temperature | e-chain® linear flexible fixed | -35 °C up to +90 °C -50 °C up to +90 °C (following DIN EN 60811-504) -55 °C up to +90 °C (following DIN EN 50305) |
|  | v max. | unsupported gliding | 10 m/s 6 m/s |
|  | a max. | | 80 m/s ² |
|  | Travel distance | | Unsupported travel distances and up to 400 m 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 | 12.5 million |
|---------------------------|---------------------|---------------------|---------------------|
| Temperature, from/to [°C] | R min. [Faktor x d] | R min. [Faktor x d] | R min. [Faktor x d] |
| -35/-25 | 10 | 11 | 12 |
| -25/+80 | 7.5 | 8.5 | 9.5 |
| +80/+90 | 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) 1000 V (following UL) |
|  | Testing voltage | 4000 V (following DIN EN 50395) |



Example image













Data sheet

chainflex® CF38



Motor cable (Class 7.6.4.1) ● For heaviest duty applications ● TPE outer jacket ● Shielded
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Properties and approvals

-  **UV resistance** High
-  **Oil resistance** Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
-  **Silicone-free** Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
-  **Halogen-free** Following DIN EN 60754
-  **UL verified** Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
-  **UL AWM** Details see table UL AWM
-  **EAC** Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
-  **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 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
-  **CE** Following 2014/35/EU
-  **UK CA** In accordance with the valid regulations of the United Kingdom (as at 08/2021)



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



Properties and approvals

UL AWM details

| Conductor nominal cross section [mm ²] | UL style core insulation | UL style outer jacket | UL Voltage Rating [V] | UL Temperature Rating [°C] |
|--|--------------------------|-----------------------|-----------------------|----------------------------|
| 1.5 | 30052 | 22351 | 1000 | 90 |
| 2.5 | 30052 | 22351 | 1000 | 90 |
| 4 | 30052 | 22351 | 1000 | 90 |
| 6 | 30052 | 22351 | 1000 | 90 |
| 10 | 30052 | 22351 | 1000 | 90 |
| 16 | 30052 | 22351 | 1000 | 90 |
| 50 | 30052 | 22351 | 1000 | 90 |

Example image



Data sheet

chainflex® CF38

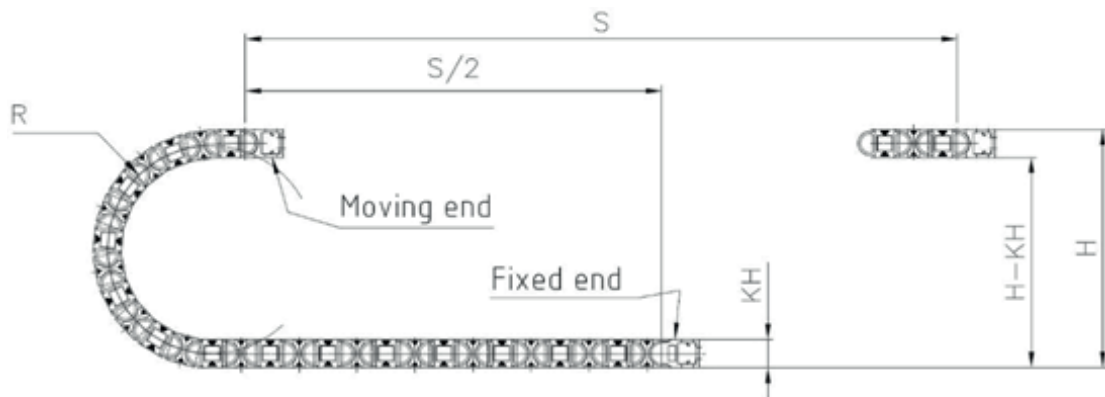


Motor cable (Class 7.6.4.1) ● For heaviest duty applications ● TPE outer jacket ● Shielded
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Typical lab test setup for this cable series

| | |
|--------------------|--------------------------------------|
| 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 extremely heavy duty applications, Class 7
- Unsupported travel distances and up to 400 m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Clean room, semiconductor insertion, outdoor cranes, low temperature applications



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



Example image

Data sheet

chainflex® CF38



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Technical tables:

Mechanical information

| Art.-Nr. | Number of cores and conductor nominal cross section [mm ²] | Outer diameter (d) max. [mm] | Copper index [kg/km] | Weight [kg/km] |
|------------------|--|------------------------------|----------------------|----------------|
| CF38.15.04 | (4G1.5)C | 10.0 | 89 | 140 |
| CF38.25.04 | (4G2.5)C | 11.5 | 133 | 198 |
| CF38.40.04 | (4G4.0)C | 13.0 | 203 | 280 |
| CF38.60.04 | (4G6.0)C | 16.0 | 288 | 409 |
| CF38.100.04 | (4G10)C | 18.5 | 468 | 613 |
| CF38.160.04 | (4G16)C | 23.0 | 738 | 943 |
| CF38.250.04 | (4G25)C | 27.0 | 1153 | 1432 |
| CF38.100.03.O.PE | (3x10)C | 17.0 | 358 | 494 |
| CF38.160.03.O.PE | (3x16)C | 20.5 | 565 | 762 |
| CF38.500.03.O.PE | (3x50)C | 33.0 | 1714 | 2129 |

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 ²] | Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km] | Max. current rating at 30 °C [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 |
| 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.



Example image
 igus® chainflex® CF38



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



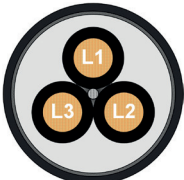
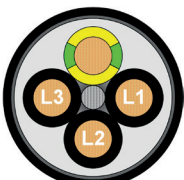
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Design table

| Part No. | Number of cores | Core design |
|-----------------|-----------------|--|
| CF38.XX.03.O.PE | 3 |  |
| CF38.XX.04 | 4 |  |



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



Example image

igus® chainflex® CF38