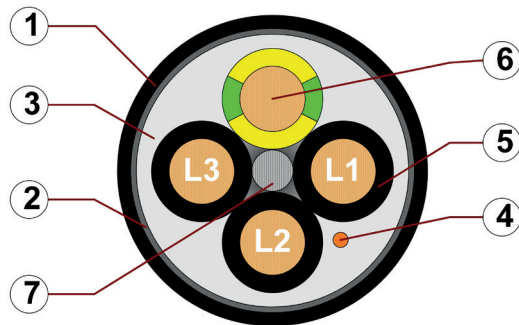


Data sheet

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 linear approx. 70%, optical approx. 90%



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 CE 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 ...



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

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	10m/s 6m/s
	a max.		80m/s ²
	Travel distance		Unsupported travels and up to 400m 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	12.5 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [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	600/1000V (following DIN VDE 0298-3) 1000V (following UL)
	Testing voltage	4000V (following DIN EN 50395)



Example image

igus® chainflex® CF38

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



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
	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 AWM	Details see table UL AWM
	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
	Dry cleanroom	Tested in „dry cleanroom“ according to DIN EN ISO 14644-1, Report No. IG 2405-1526
	CE	Following 2014/35/EU

Properties and approvals

UL AWM details

Conductor nominal cross section [mm²]	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

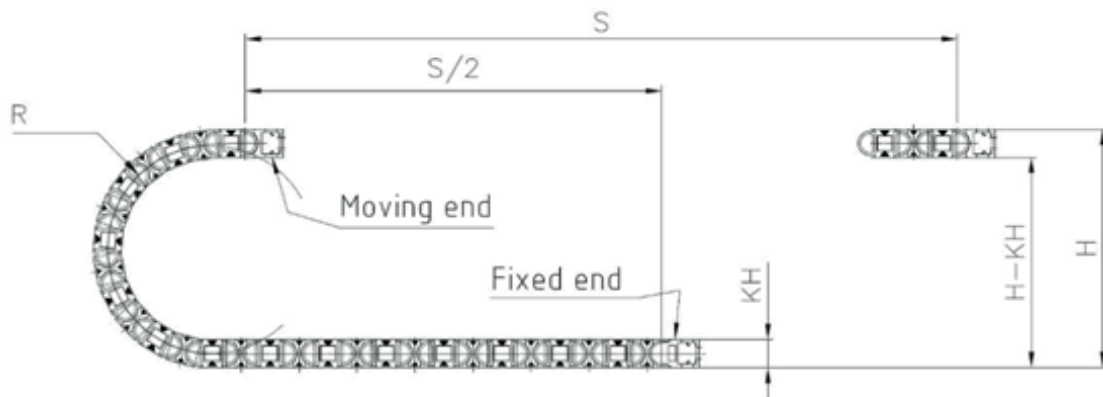
chainflex® CF38



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

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 heavy-duty applications, Class 7
- Unsupported travels and up to 400m 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, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Example image



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

Technical tables:

Mechanical information

Art.-Nr.	Number of cores and conductor nominal cross section [mm²]	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
CF38.60.03.O.PE	(3x6.0)C	14.5	229	323
CF38.100.03.O.PE	(3x10)C	17.0	358	494
CF38.160.03.O.PE	(3x16)C	20.5	565	762
CF38.250.03.O.PE	(3x25)C	24.5	880	1122
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 [mm²]	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 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



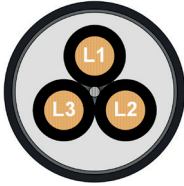
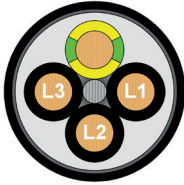
Data sheet

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

Design table

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



Example image