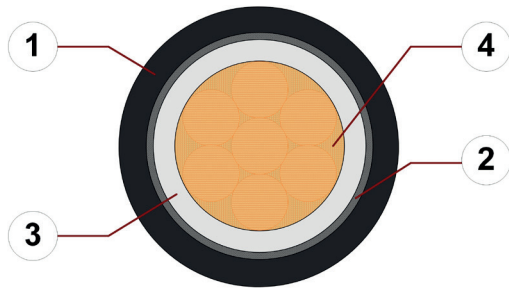


Data sheet

chainflex® CF340



Spindle cable/Single core (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. Core insulation: Mechanically high-quality TPE mixture
4. Conductor: Conductor rope in especially bending-stable version consisting of bare 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	Conductor cable consisting of pre-leads (following DIN EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	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

„00000 m** igus chainflex CF340.--.--① ----② 600/1000V E310776

RU AWM Style 22353 80°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 CF340.40.01 (1x4.0)C 600/1000V ...



Example image

igus® chainflex® CF340

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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.		100 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. [factor x d]	R min. [factor x d]	R min. [factor 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® CF340



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 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
-  **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.00863/20
-  **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
-  **UKCA** In accordance with the valid regulations of the United Kingdom (as at 08/2021)



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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]
4	10492	22353	1000	80
10	10492	22353	1000	80
16	10492	22353	1000	80
25	10492	22353	1000	80
35	10492	22353	1000	80
50	10492	22353	1000	80
70	10492	22353	1000	80
95	10492	22353	1000	80
120	10492	22353	1000	80
150	10492	22353	1000	80
185	10492	22353	1000	80
240	10492	22353	1000	80

Example image



Data sheet

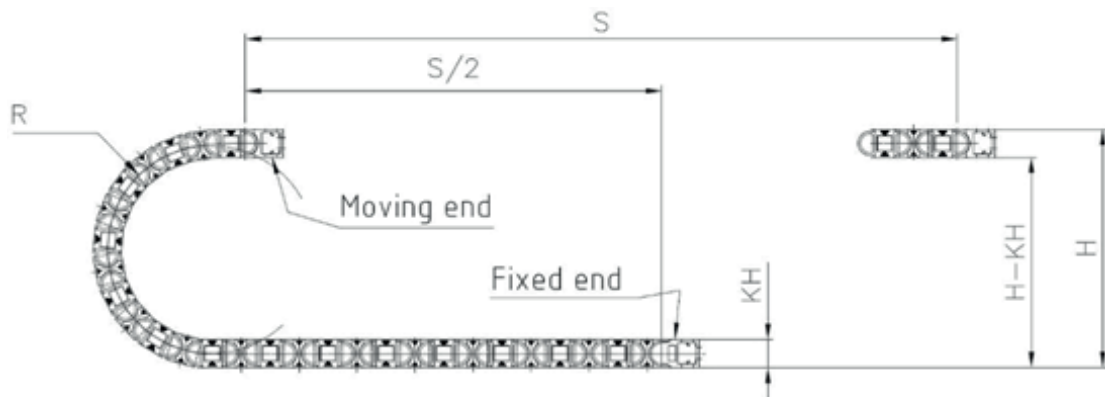
chainflex® CF340



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Typical lab test setup for this cable series

Test bend radius R	approx. 44 - 175 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 heaviest 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



Example image



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Technical tables:

Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm ²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF340.40.01	(1x4.0)C	6.5	57	73
CF340.100.01	(1x10)C	8.5	121	148
CF340.160.01	(1x16)C	10.0	184	215
CF340.250.01	(1x25)C	12.0	280	319
CF340.350.01	(1x35)C	13.0	395	433
CF340.500.01	(1x50)C	15.0	536	574
CF340.700.01	(1x70)C	17.5	779	832
CF340.950.01	(1x95)C	21.0	1015	1093
CF340.1200.01	(1x120)C	22.0	1270	1341
CF340.1500.01	(1x150)C	24.5	1592	1642
CF340.1850.01	(1x185)C	27.5	2066	2157
CF340.2400.01	(1x240)C	30.5	2566	2731

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]
4	4.95	46
10	1.91	81
16	1.21	110
25	0.78	144
35	0.56	179
50	0.39	228
70	0.28	285
95	0.21	348
120	0.16	394
150	0.13	466
185	0.11	532
240	0.1	610

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



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Technical tables:

Short circuit capacity (I_{thz}) according to DIN VDE 0298-4 (at $T_{Leiter} = 80\text{ °C}$ and $T_{Kurzschluss} = 250\text{ °C}$)

Conductor nominal cross section (S_n) mm ²	Short circuit capacity (I_{thz}) [kA]	
	$t_k = 1\text{ s}$	$t_k = 0,5\text{ s}$
4	0.59	0.84
10	1.49	2.10
16	2.38	3.37
25	3.72	5.26
35	5.21	7.37
50	7.45	10.53
70	10.43	14.75
95	14.15	20.01
120	17.88	25.28
150	22.35	31.60
185	27.56	38.98
240	35.76	50.57

J_{thr} : Short-time current density = 149 A/mm²
 S_n : Nominal cross section
 t_{kr} : Rated short-circuit duration = 1 s
 t_k : Short-circuit duration
 T_{Leiter} : Conductor temperature
 $T_{Kurzschluss}$: Short-circuit temperature

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



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



Example image