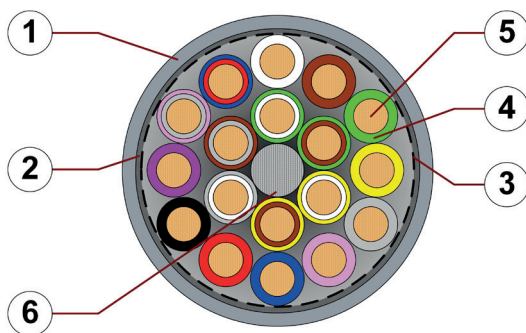


Data sheet

chainflex® CF240



Data cable (Class 4.4.2.1) ● For medium duty applications ● PVC outer jacket ● Shielded
● Oil-resistant ● Flame retardant



1. Outer jacket: Pressure extruded, oil-resistant PVC mixture
2. Overall shield: Extremely bending-resistant braiding made of tinned copper wires
3. Banding: Plastic foil
4. Core insulation: Mechanically high-quality TPE mixture
5. Conductor: Very finely stranded special cores of particularly high-flex design made of bare copper wires
6. Strain relief: Tensile stress-resistant centre element

Example image

For detailed overview please see design table

Cable structure

	Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	The individual cores are wound in layers with a short pitch length.
	Core identification	Colour code in accordance with DIN 47100
	Intermediate layer	Foil taping over the outer layer.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage approx. 70 % linear, approx. 90 % optical
	Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001) Printing: black

„00000 m“* igus chainflex CF240.--.--① -----② E310776 cRUus AWM

Style 2464 VW-1 AWM I/II A/B 80°C 300V FT1 CE

RoHS-II conform www.igus.de +++ 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 **CF240.01.18 (18x0.14)C E310776** ...



igus 4-year
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guarantee and
service life
calculator based
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Dynamic information

	Bend radius	e-chain® linear flexible fixed	minimum 10 x d minimum 8 x d minimum 5 x d
	Temperature	e-chain® linear flexible fixed	+5 °C up to +70 °C -5 °C up to +70 °C (following DIN EN 60811-504) -15 °C up to +70 °C (following DIN EN 50305)
	v max.	unsupported gliding	3 m/s 2 m/s
	a max.		20 m/s ²
	Travel distance		Unsupported travels and up to 50 m for gliding applications, Class 4

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	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	12.5	15	13.5	16	14.5	17
+15/+60	10	12.5	11	13.5	12	14.5
+60/+70	12.5	15	13.5	16	14.5	17

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	300/300 V (following DIN VDE 0298-3) 300 V (following UL)
	Testing voltage	1500 V (following DIN EN 50395)



Example image

igus® chainflex® CF240

Data sheet

chainflex® CF240



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Properties and approvals

	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)
	PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
	UL verified	Certificate No. V293560: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
	UL/CSA AWM	Details see table UL AWM
	NFPA	Following NFPA 79-2018, chapter 12.9
	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, material/cable tested by IPA according to DIN EN ISO standard 14644-1
	CE	Following 2014/35/EU

Properties and approvals

UL/CSA AWM Details

Conductor nominal cross section [mm²]	Number of cores	UL style core insulation	UL style outer jacket	UL Voltage Rating [V]	UL Temperature Rating [°C]
0.14	3-24	10493	2464	300	80
0.25	3-24	10493	2464	300	80
0.34	2-24	10493	2464	300	80



Example image

Data sheet

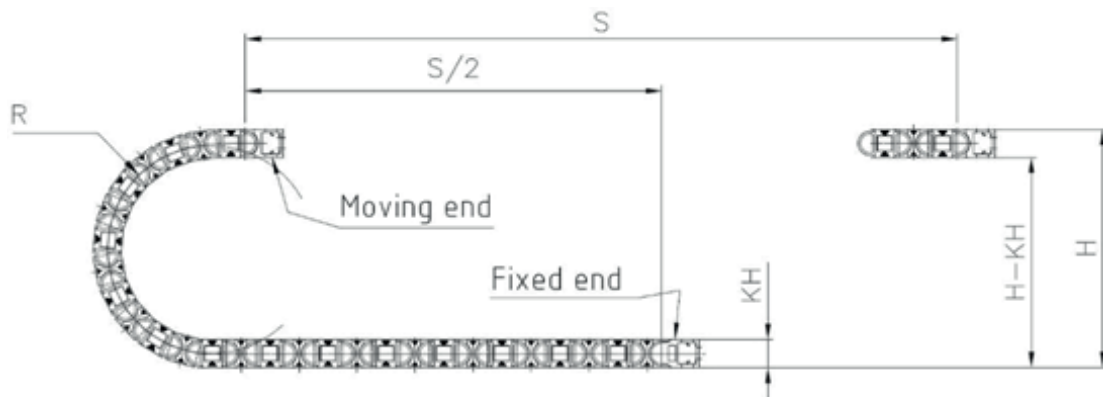
chainflex® CF240



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Typical lab test setup for this cable series

Test bend radius R	approx. 40 - 135 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 medium duty applications, Class 4
- Unsupported travel distances and up to 50 m for gliding applications, Class 4
- Light oil influence, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units for high-bay warehouses, machining units/package machines, Handling, indoor cranes



Example image



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Technical tables:

Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF240.01.03	(3x0.14)C	5.5	12	28
CF240.01.04	(4x0.14)C	5.0	17	32
CF240.01.05	(5x0.14)C	5.5	19	37
CF240.01.07	(7x0.14)C	6.0	25	47
CF240.01.14	(14x0.14)C	7.0	41	75
CF240.01.18	(18x0.14)C	7.5	51	90
CF240.01.24	(24x0.14)C	8.5	64	125
CF240.02.03	(3x0.25)C	5.0	19	35
CF240.02.04	(4x0.25)C	5.5	23	45
CF240.02.05	(5x0.25)C	6.0	28	49
CF240.02.07	(7x0.25)C	6.5	35	61
CF240.02.08	(8x0.25)C	7.0	39	68
CF240.02.14	(14x0.25)C	7.5	60	92
CF240.02.18	(18x0.25)C	8.5	71	122
CF240.02.24	(24x0.25)C	10.0	95	161
CF240.03.02	(2x0.34)C	5.5	21	37
CF240.03.03	(3x0.34)C	5.5	29	42
CF240.03.04	(4x0.34)C	6.0	33	51
CF240.03.05	(5x0.34)C	6.5	38	56
CF240.03.07	(7x0.34)C	7.5	50	77
CF240.03.10	(10x0.34)C	8.0	58	97
CF240.03.14	(14x0.34)C	8.0	74	112
CF240.03.18	(18x0.34)C	9.0	91	139
CF240.03.24	(24x0.34)C	10.0	119	177

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]
0.14	138	2.5
0.25	79	5
0.34	57	7

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



igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



Example image

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Design table

Part No.	Number of cores	Core design	Part No.	Number of cores	Core design
CF240.XX.02	2		CF240.XX.08	8	
CF240.XX.03	3		CF240.XX.10	10	
CF240.XX.04	4		CF240.XX.14	14	
CF240.XX.05	5		CF240.XX.18	18	
CF240.XX.07	7		CF240.XX.24	24	



igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



Example image

Data sheet

chainflex® CF240



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Example image

Colour code in accordance with DIN 47100

Conductor no.	Colours according to DIN ISO 47100	Conductor no.	Colours according to DIN ISO 47100
1	white	19	white-pink
2	brown	20	pink-brown
3	green	21	white-blue
4	yellow	22	brown-blue
5	grey	23	white-red
6	pink	24	brown-red
7	blue	25	white-black
8	red	26	brown-black
9	black	27	grey-green
10	violet	28	yellow-grey
11	grey-pink	29	pink-green
12	red-blue	30	yellow-pink
13	white-green	31	green-blue
14	brown-green	32	yellow-blue
15	white-yellow	33	green-red
16	yellow-brown	34	yellow-red
17	white-grey	35	green-black
18	grey-brown	36	yellow-black



igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



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<u>CF240.01.04</u>	<u>CF240.01.03</u>	<u>CF240.01.07</u>	<u>CF240.01.18</u>	<u>CF240.02.14</u>	<u>CF240.02.24</u>	<u>CF240.01.14</u>	<u>CF240.01.05</u>
<u>CF240.03.04</u>	<u>CF240.03.14</u>	<u>CF240.03.02</u>	<u>CF240.02.08</u>	<u>CF240.03.18</u>	<u>CF240.02.05</u>	<u>CF240.03.24</u>	<u>CF240.03.03</u>
<u>CF240.02.07</u>	<u>CF240.03.07</u>	<u>CF240.01.24</u>	<u>CF240.02.18</u>	<u>CF240.03.10</u>	<u>CF240.02.03</u>	<u>CF240.02.04</u>	<u>CF240.03.05</u>