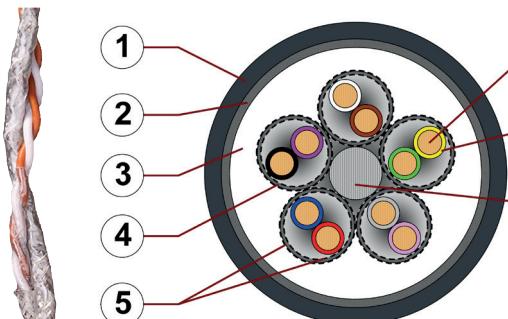


# Data sheet chainflex® CF112



**Data cable (Class 6.5.3.1)** ● For extremely heavy duty applications ● PUR outer jacket  
● Double shielded ● twisted pair ● Oil resistant and coolant-resistant ● Flame retardant  
● PVC and halogen-free ● Notch-resistant ● Hydrolysis and microbe-resistant



1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Aluminum/Polyester tape and extremely bending-resistant braiding made of tinned copper wires.
3. Inner jacket: Pressure extruded, gusset-filling PUR mixture
4. Element shield: Aluminum/Polyester tape and extremely bending-resistant braiding made of tinned copper wires
5. Banding: Plastic foil
6. Core insulation: Mechanically high-quality TPE mixture
7. Conductor: Very finely stranded special cores of particularly high-flex design made of bare copper wires
8. Strain relief: Tensile stress-resistant centre element



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

Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.



Core insulation

Mechanically high-quality TPE mixture.



Core structure

Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.



Core identification

Colour code in accordance with DIN 47100



Element shield

Aluminum/Polyester tape and extremely bending-resistant braiding made of tinned copper wires.

Coverage approx. 70 % linear, approx. 90 % optical



Inner jacket

PUR mixture adapted to suit the requirements in e-chains®.



Overall shield

Aluminum/Polyester tape and extremely bending-resistant braiding made of tinned copper wires.

Coverage approx. 70 % linear, approx. 90 % optical



Outer jacket

Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2).

Colour: Anthracite grey (similar to RAL 7016)

Printing: white



„00000 m\*\* igus chainflex CF112.---.02① ---② E310776 cRUs AWM

Style 20233 VW-1 AWM I/II A/B 80°C 300V FT1 DNV-GL 13 656-14 HH

EAC/CTP CE RoHS-II conform [www.igus.de](http://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 ... CF112.02.04.02 ... (4x(2x0.25)C)C ... E310776 ...

Example image

# Data sheet chainflex® CF112

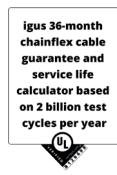


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## Dynamic information



	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	-25 °C up to +80 °C -40 °C up to +80 °C (following DIN EN 60811-504) -50 °C up to +80 °C (following DIN EN 50305)	
	v max.	unsupported gliding	10 m/s 5 m/s	
	a max.		80 m/s <sup>2</sup>	
	Travel distance	Unsupported travels and up to 100 m for gliding applications, Class 5		



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
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

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



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## Properties and approvals



	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Offshore	MUD-resistant following NEK 606 - status 2009
	Flame retardant	According to IEC 60332-1-2, FT1, VW-1
	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/CSA AWM	See table UL/CSA AWM for details
	NFPA	Following NFPA 79-2018, chapter 12.9
	DNV-GL	Type approval certificate No. 13 656-14 HH
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (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 CF77. UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
	CE	Following 2014/35/EU



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chainflex cable  
guarantee and  
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on 2 billion test  
cycles per year



## Properties and approvals

### UL/CSA AWM Details

Conductor nominal cross section [mm <sup>2</sup> ]	Number of cores	UL style core insulation	UL style outer jacket	UL Voltage Rating [V]	UL Temperature Rating [°C]
0.25	4-10	10493	20233	300	80
0.5	4-12	10493	20233	300	80

Example image

igus® chainflex® CF112

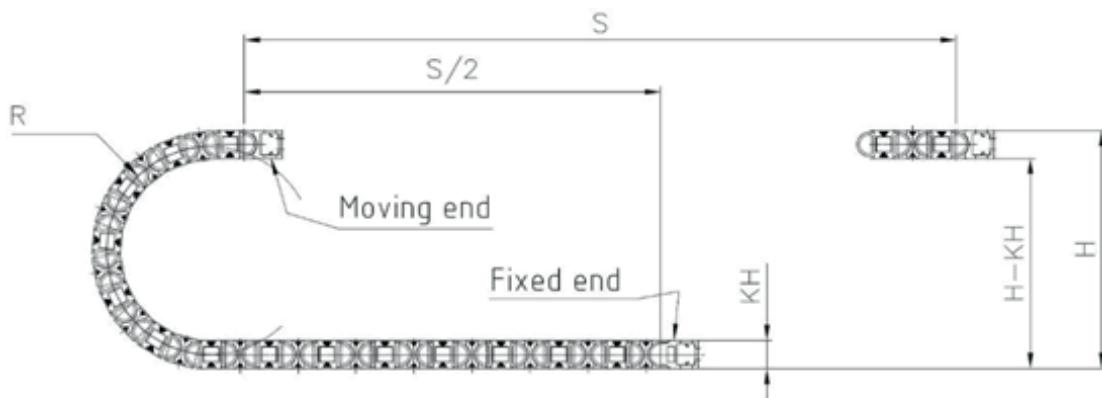
# Data sheet chainflex® CF112



Data cable (Class 6.5.3.1) ● For extremely heavy duty applications ● PUR outer jacket  
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## Typical lab test setup for this cable series

Test bend radius R	approx. 100 - 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 <sup>2</sup>



## Typical application areas

- For heaviest duty applications, Class 6
- Unsupported travel distances and up to 100 m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, Storage and retrieval units for high-bay warehouses, Packaging industry, quick handling, refrigerating sector

Example image



igus® chainflex® CF112



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## Technical tables:

### Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm <sup>2</sup> ]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF112.02.02.02	(2x(2x0.25)C)C	9.5	57	118
CF112.02.03.02	(3x(2x0.25)C)C	10.0	71	133
CF112.02.04.02	(4x(2x0.25)C)C	11.0	78	153
CF112.02.05.02	(5x(2x0.25)C)C	11.5	99	178
CF112.05.02.02	(2x(2x0.5)C)C	11.5	75	163
CF112.05.04.02	(4x(2x0.5)C)C	13.0	117	217
CF112.05.06.02	(6x(2x0.5)C)C	14.5	160	285

**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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### Electrical information

Conductor nominal cross section [mm <sup>2</sup> ]	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Max. current rating at 30 °C [A]
0.25	79	5
0.5	39	10

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



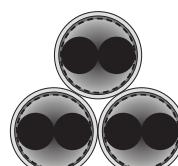
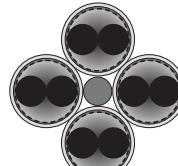
# Data sheet **chainflex® CF112**

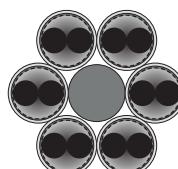


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## Design table



Part No.	Number of cores	Core design
CF112.XX.02.02	2x2	
CF112.XX.03.02	3x2	
CF112.XX.04.02	4x2	

Part No.	Number of cores	Core design
CF112.XX.05.02	5x2	
CF112.XX.06.02	6x2	



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### Example image

# Data sheet

## chainflex® CF112



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### Colour code in accordance with DIN 47100

Conductor no.	Colours according to DIN ISO 47100	Conductor no.	Colours according to DIN ISO 47100	Conductor no.	Colours according to DIN ISO 47100
1	white	22	brown-blue	43	blue-black
2	brown	23	white-red	44	red-black
3	green	24	brown-red	45	white-brown-black
4	yellow	25	white-black	46	yellow-green-black
5	grey	26	brown-black	47	grey-pink-black
6	pink	27	grey-green	48	red-blue-black
7	blue	28	yellow-grey	49	white-green-black
8	red	29	pink-green	50	brown-green-black
9	black	30	yellow-pink	51	white-yellow-black
10	violet	31	green-blue	52	yellow-brown-black
11	grey-pink	32	yellow-blue	53	white-grey-black
12	red-blue	33	green-red	54	grey-brown-black
13	white-green	34	yellow-red	55	white-pink-black
14	brown-green	35	green-black	56	pink-brown-black
15	white-yellow	36	yellow-black	57	white-blue-black
16	brown-yellow	37	grey-blue	58	brown-blue-black
17	white-grey	38	pink-blue	59	white-red-black
18	brown-grey	39	grey-red	60	brown-red-black
19	white-pink	40	pink-red	61	black-white
20	white-brown	41	grey-black		
21	white-blue	42	pink-black		



Example image



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

