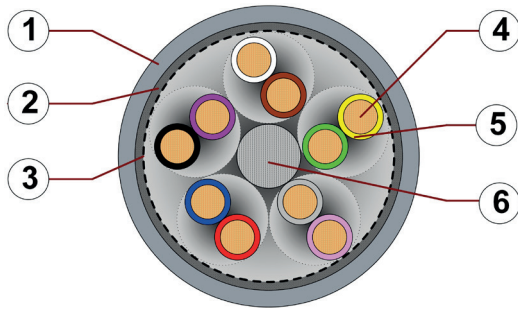


Data sheet

chainflex® CF211.PUR



Data cable (Class 5.5.3.1) ● For heavy duty applications ● PUR outer jacket ● 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: Extremely bending-resistant braiding made of tinned copper wires.
3. Banding: Plastic foil
4. Conductor: Very finely stranded special cores of particularly high-flex design made of bare copper wires
5. Core insulation: Mechanically high-quality TPE mixture
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	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
	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, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2). Colour: Window-grey (similar to RAL 7040) Printing: black

„00000 m“* igus chainflex CF211.PUR.--.02① -----② E310776 cЯUus

AWM Style 20549 AWM I A/B 80°C 300V FT2 DNV TAE00003X3

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 **CF211.PUR.02.04.02 (4x(2x0.25))C E310776** ...



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



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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	-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	5 m/s 3 m/s
	a max.		50 m/s ²
	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. [x d]	R min. [x d]	R min. [x d]
-25/-15	10	11	12
-15/+70	7.5	8.5	9.5
+70/+80	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	300/300 V (following DIN VDE 0298-3) 300 V (following UL)
	Testing voltage	1500 V (following DIN EN 50395)



Example image

igus® chainflex® CF211.PUR

Data sheet

chainflex® CF211.PUR



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Properties and approvals

	UV resistance	Medium
	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, FT2 / Horizontal Flame
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following DIN EN 60754
	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	See table UL/CSA AWM details
	NFPA	Following NFPA 79-2018, chapter 12.9
	DNV	Type Approval Certificate TAE00003X3
	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. UL05.12.D - tested by IPA according to standard DIN EN ISO 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]
0.25	2-28	10493	20549	300	80
0.34	6-16	10493	20549	300	80
0.5	2-28	10493	20549	300	80



Example image

igus® chainflex® CF211.PUR

Data sheet

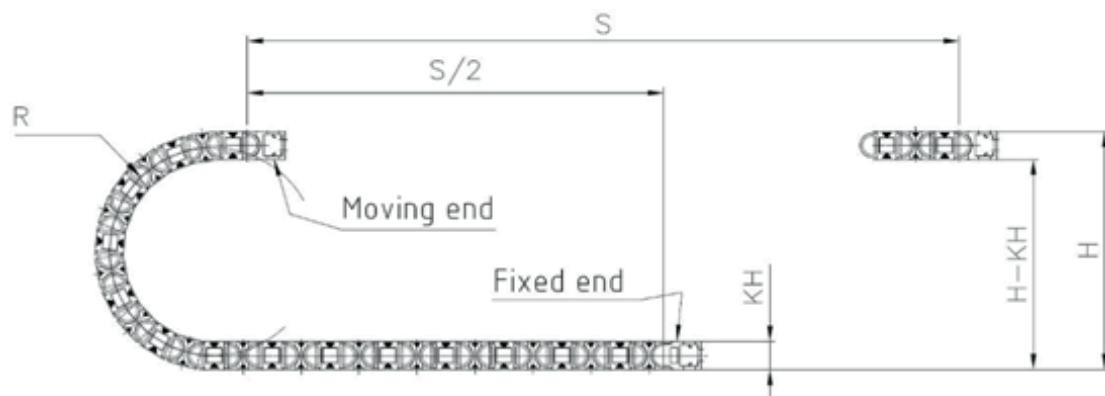
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Typical lab test setup for this cable series

Test bend radius R	approx. 35 - 75 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 5
- 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



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



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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]
CF211.PUR.02.01.02	(2x0.25)C	5.0	18	32
CF211.PUR.02.02.02 ²⁾	(2x(2x0.25))C	6.0	25	49
CF211.PUR.02.03.02	(3x(2x0.25))C	7.0	36	65
CF211.PUR.02.04.02	(4x(2x0.25))C	7.5	44	76
CF211.PUR.02.05.02	(5x(2x0.25))C	8.5	52	89
CF211.PUR.02.06.02	(6x(2x0.25))C	9.0	62	102
CF211.PUR.02.08.02	(8x(2x0.25))C	10.5	78	130
CF211.PUR.02.10.02	(10x(2x0.25))C	12.0	90	168
CF211.PUR.02.14.02	(14x(2x0.25))C	12.0	119	204
CF211.PUR.03.03.02	(3x(2x0.34))C	8.0	44	83
CF211.PUR.03.06.02	(6x(2x0.34))C	10.0	63	119
CF211.PUR.03.08.02	(8x(2x0.34))C	12.0	95	163
CF211.PUR.05.01.02	(2x0.5)C	6.0	26	51
CF211.PUR.05.02.02 ²⁾	(2x(2x0.5))C	7.0	41	86
CF211.PUR.05.03.02	(3x(2x0.5))C	9.0	61	105
CF211.PUR.05.04.02	(4x(2x0.5))C	9.5	74	123
CF211.PUR.05.05.02	(5x(2x0.5))C	11.0	91	152
CF211.PUR.05.06.02	(6x(2x0.5))C	11.5	103	189
CF211.PUR.05.08.02	(8x(2x0.5))C	13.0	137	221
CF211.PUR.05.10.02	(10x(2x0.5))C	15.5	170	297
CF211.PUR.05.14.02	(14x(2x0.5))C	15.5	185	311

²⁾ The chainflex® types marked with 2) are cables designed as a star-quadr.

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]
0.25	79	5
0.34	57	7
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.



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



Example image

igus® chainflex® CF211.PUR

Data sheet

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Design table

Part No.	Number of Core design cores		Part No.	Number of Core design cores	
CF211.PUR.XX.01.02	2		CF211.PUR.XX.06.02	6x2	
CF211.PUR.XX.02.02	4		CF211.PUR.XX.08.02	8x2	
CF211.PUR.XX.03.02	3x2		CF211.PUR.XX.10.02	10x2	
CF211.PUR.XX.04.02	4x2		CF211.PUR.XX.14.02	14x2	
CF211.PUR.XX.05.02	5x2				



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Example image



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Colour code in accordance with DIN 47100

Conductor no.	Colours according to DIN ISO 47100
1	white
2	brown
3	green
4	yellow
5	grey
6	pink
7	blue
8	red
9	black
10	violet
11	grey-pink
12	red-blue
13	white-green
14	brown-green
15	white-yellow
16	yellow-brown
17	white-grey
18	grey-brown

Conductor no.	Colours according to DIN ISO 47100
19	white-pink
20	pink-brown
21	white-blue
22	brown-blue
23	white-red
24	brown-red
25	white-black
26	brown-black
27	grey-green
28	yellow-grey
29	pink-green
30	yellow-pink
31	green-blue
32	yellow-blue
33	green-red
34	yellow-red
35	green-black
36	yellow-black



igus 4-year
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cycles per year



Example image

Mouser Electronics

Authorized Distributor

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<u>CF211.PUR.05.01.02</u>	<u>CF211.PUR.02.08.02</u>	<u>CF211.PUR.02.06.02</u>	<u>CF211.PUR.05.06.02</u>	<u>CF211.PUR.02.02.02</u>
<u>CF211.PUR.05.14.02</u>	<u>CF211.PUR.05.05.02</u>	<u>CF211.PUR.02.01.02</u>	<u>CF211.PUR.03.03.02</u>	<u>CF211.PUR.02.05.02</u>
<u>CF211.PUR.05.02.02</u>	<u>CF211.PUR.05.08.02</u>	<u>CF211.PUR.05.10.02</u>	<u>CF211.PUR.05.03.02</u>	<u>CF211.PUR.02.10.02</u>
<u>CF211.PUR.02.04.02</u>	<u>CF211.PUR.05.04.02</u>	<u>CF211.PUR.02.03.02</u>	<u>CF211.PUR.02.14.02</u>	<u>CF211.PUR.03.08.02</u>