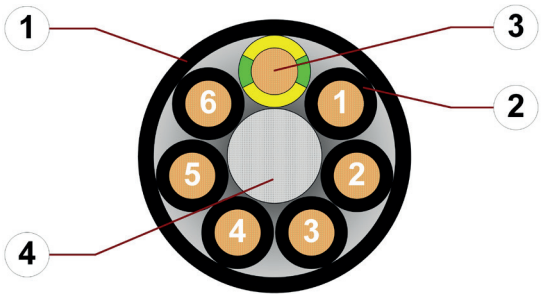
Data sheet
chainflex® CF890

Control cable (Class 3.1.3.1) ● For flexing applications ● iguPUR outer jacket ● Oil-resistant ● Flame retardant

Example image



1. Outer jacket: Pressure extruded iguPUR mixture
2. Core insulation: Mechanically high-quality PVC mixture
3. Conductor: Stranded conductor consisting of bare copper wires
4. Filling: Plastic yarns

Example image
For detailed overview please see design table

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality PVC mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Jet black (similar to RAL 9005) Printing: white

„00000 m“ igus chainflex M CF890.--.--① ---② 300/500V E310776**

cЯUus AWM Style 20940 VW-1 AWM I/II A/B 80°C 600V FT1 EAC/CTP 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 ... **CF890.15.04** ... **4G1.5** ... **300 V/500 V** ...

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Dynamic information

Bend radius	e-chain® linear	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	e-chain® linear	-20 °C up to +80 °C
	flexible	-40 °C up to +80 °C (following DIN EN 60811-504)
	fixed	-50 °C up to +80 °C (following DIN EN 50305)
v max.	unsupported	3 m/s
a max.		20 m/s²
Travel distance		Unsupported travel distances up to 10 m, Class 1

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	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	15	16	17
-10/+70	12.5	13.5	14.5
+70/+80	15	16	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	300/500 V
Testing voltage	2000 V (following DIN EN 50395)

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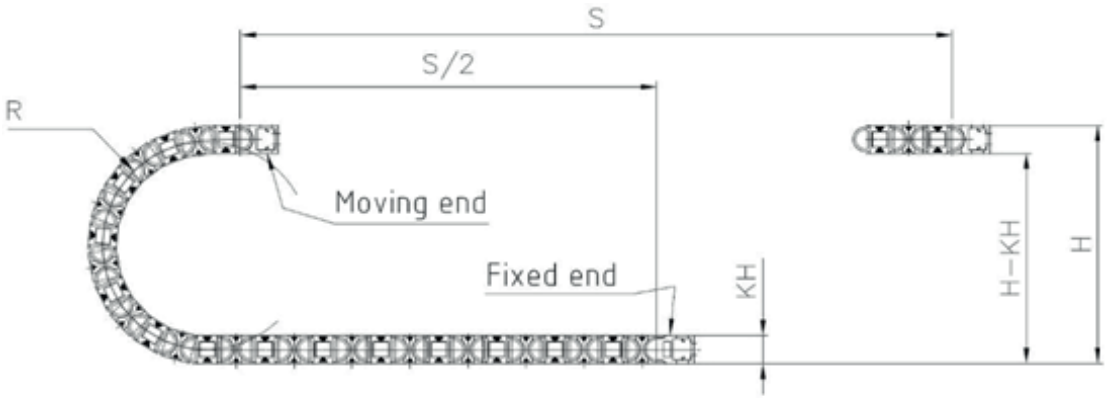
Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL/CSA	Style 11008 and 20940, 600 V, 80 °C
EAC	Certificate No. RU C-DE.ME77.B.01560 (TR ZU)
CTP	Certificate No. C-DE.PB49.B.00449 (Fire protection)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU

Typical lab test setup for this cable series

Test bend radius R	approx. 75 - 225 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 / s²



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Example image

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct solar radiation
- Machining units/machine tools, low temperature applications

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Example image

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]
CF890.05.02	2x0.5	5.5	10	34
CF890.05.03	3G0.5	6.0	15	41
CF890.05.04	4G0.5	6.5	20	49
CF890.05.05	5G0.5	7.0	25	60
CF890.05.07	7G0.5	8.5	35	90
CF890.05.12	12G0.5	9.5	60	133
CF890.05.18	18G0.5	11.5	90	193
CF890.05.25	25G0.5	13.5	124	268
CF890.07.02	2x0.75	6.0	15	41
CF890.07.03	3G0.75	6.5	23	51
CF890.07.04	4G0.75	7.0	30	63
CF890.07.05	5G0.75	7.5	38	77
CF890.07.07	7G0.75	9.0	53	113
CF890.07.12	12G0.75	10.5	90	171
CF890.07.18	18G0.75	13.0	134	253
CF890.07.25	25G0.75	15.0	186	353
CF890.10.02	2x1.0	6.5	20	49
CF890.10.03	3G1.0	6.5	30	61
CF890.10.04	4G1.0	7.0	40	76
CF890.10.05	5G1.0	8.0	50	92
CF890.10.07	7G1.0	9.5	70	138
CF890.10.12	12G1.0	11.5	119	209
CF890.10.18	18G1.0	13.5	178	306
CF890.10.25	25G1.0	16.0	248	433
CF890.15.02	2x1.5	7.5	30	75
CF890.15.03	3G1.5	8.5	45	96
CF890.15.04	4G1.5	9.0	60	119
CF890.15.05	5G1.5	10.0	75	151
CF890.15.07	7G1.5	12.5	104	225
CF890.15.12	12G1.5	14.5	178	340
CF890.15.18	18G1.5	17.5	267	502
CF890.15.25	25G1.5	21.0	371	708

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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Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF890.25.03	3G2.5	9.0	75	134
CF890.25.04	4G2.5	10.0	100	173
CF890.25.05	5G2.5	11.5	124	214
CF890.25.07	7G2.5	14.0	174	321
CF890.25.12	12G2.5	16.5	297	488
CF890.25.25	25G2.5	24.0	612	1019

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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Example image

Electrical information

Conductor nominal cross section [mm²]	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Maximum current rating at 30 °C (following DIN VDE 0298-4) [A]
0.5	39.0	8
0.75	26.0	12
1	19.5	15
1.5	13.3	18
2.5	8.0	26

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

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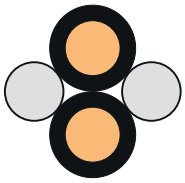
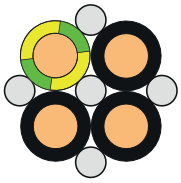
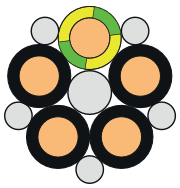
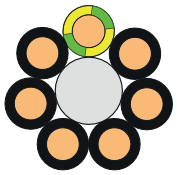
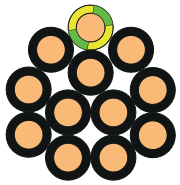
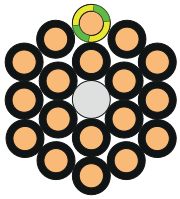
Example image

Design table

Part No.	Number of cores	Core design
CF890.XX.02	2	
CF890.XX.03	3	
CF890.XX.04	4	
CF890.XX.05	5	

Part No.	Number of cores	Core design
CF890.XX.07	7	
CF890.XX.12	12	
CF890.XX.18	18	
CF890.XX.25	25