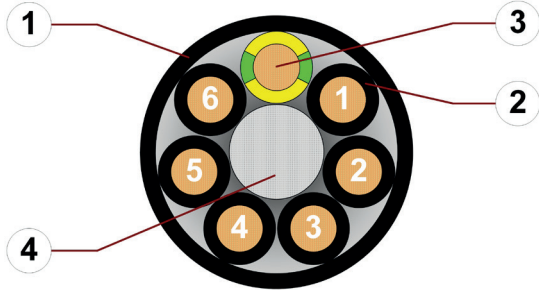


# Data sheet

## chainflex® CF890



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



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



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

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

„00000 m<sup>4</sup>\*\* igus chainflex M CF890.--① ---② 300/500V E310776

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



Example image

igus® chainflex® CF890

# Data sheet






## chainflex® CF890



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



### Dynamic information

	<b>Bend radius</b>	<b>e-chain® linear</b> <b>flexible</b> <b>fixed</b>	minimum 12.5 x d minimum 10 x d minimum 7 x d
	<b>Temperature</b>	<b>e-chain® linear</b> <b>flexible</b> <b>fixed</b>	-20 °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)
	<b>v max.</b>	<b>unsupported</b>	3 m/s
	<b>a max.</b>		20 m/s <sup>2</sup>
	<b>Travel distance</b>		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

	<b>Nominal voltage</b>	300/500 V 600 V (following UL)
	<b>Testing voltage</b>	2000 V (following DIN EN 50395)



Example image

# Data sheet

## chainflex® CF890



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



### 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, FT1, VW-1
-  **Silicone-free** Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
-  **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
-  **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)
-  **CE** Following 2014/35/EU



igus 36-month chainflex cable guarantee and service life calculator based 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]
0.5	2-25	11323	20940	600	80
0.75	2-25	11323	20940	600	80
1	2-25	11323	20940	600	80
1.5	2-25	11323	20940	600	80
2.5	3-25	11323	20940	600	80

Example image

igus® chainflex® CF890

# Data sheet

## chainflex® CF890



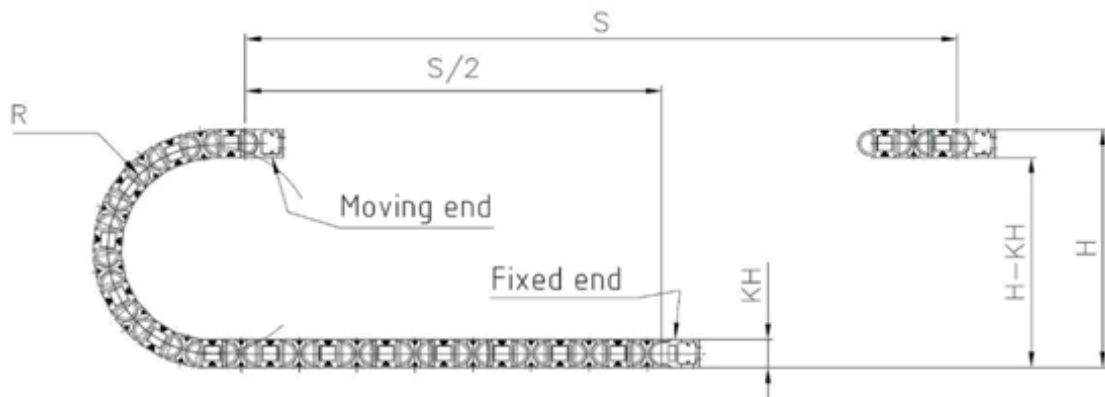
Control cable (Class 3.1.3.1) ● For flexing applications ● iguPUR outer jacket ● Oil-resistant ● Flame retardant



Example image

### 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 / s <sup>2</sup>



### 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



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



# Data sheet

## chainflex® CF890



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

### 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]
CF890.05.02	2x0.5	5.0	11	30
CF890.05.03	3G0.5	5.5	16	34
CF890.05.04	4G0.5	6.0	21	44
CF890.05.05	5G0.5	6.5	26	53
CF890.05.07	7G0.5	7.5	37	70
CF890.05.12	12G0.5	8.5	63	105
CF890.05.18	18G0.5	10.0	94	155
CF890.05.25	25G0.5	12.0	128	222
CF890.07.02	2x0.75	5.5	16	38
CF890.07.03	3G0.75	6.0	24	46
CF890.07.04	4G0.75	6.5	32	58
CF890.07.05	5G0.75	7.0	40	71
CF890.07.07	7G0.75	8.0	56	96
CF890.07.12	12G0.75	10.0	94	146
CF890.07.18	18G0.75	11.5	140	162
CF890.07.25	25G0.75	13.5	194	278
CF890.10.02	2x1.0	6.0	21	46
CF890.10.03	3G1.0	6.5	32	56
CF890.10.04	4G1.0	7.0	42	58
CF890.10.05	5G1.0	7.5	52	89
CF890.10.07	7G1.0	8.5	73	117
CF890.10.12	12G1.0	10.5	124	178
CF890.10.18	18G1.0	12.5	186	273
CF890.10.25	25G1.0	15.0	258	375
CF890.15.02	2x1.5	6.5	32	62
CF890.15.03	3G1.5	7.0	47	76
CF890.15.04	4G1.5	7.5	63	97
CF890.15.05	5G1.5	8.5	78	117
CF890.15.07	7G1.5	10.0	109	163
CF890.15.12	12G1.5	12.0	186	256
CF890.15.18	18G1.5	14.5	279	362
CF890.15.25	25G1.5	17.5	387	502

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



Example image

igus® chainflex® CF890

# Data sheet

## chainflex® CF890



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

### 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]
CF890.25.03	3G2.5	8.5	118	136
CF890.25.04	4G2.5	9.0	103	145
CF890.25.05	5G2.5	10.0	129	175
CF890.25.07	7G2.5	12.0	181	246
CF890.25.12 <sup>1)</sup>	12G2.5	15.0	327	408
CF890.25.25 <sup>1)</sup>	25G2.5	21.5	638	786

<sup>1)</sup> Phase-out model

**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



Example image



# Data sheet

## chainflex® CF890



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



Example image

### 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]
0.5	39	10
0.75	26	14
1	19.5	17
1.5	13.3	21
2.5	8	30

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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# Data sheet

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### Design table

Part No.	Number of cores	Core design	Part No.	Number of cores	Core design
CF890.XX.02	2		CF890.XX.07	7	
CF890.XX.03	3		CF890.XX.12	12	
CF890.XX.04	4		CF890.XX.18	18	
CF890.XX.05	5		CF890.XX.25	25	



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



Example image

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