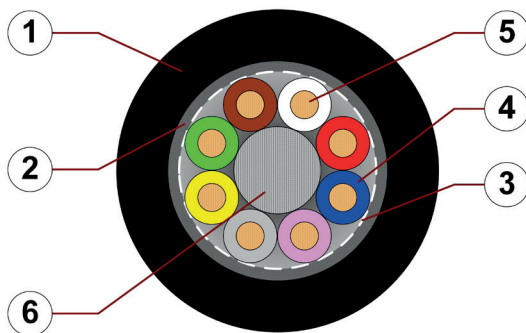


Data sheet

chainflex® CFSOFT2



Control cable (Class 7.1.2.1) • For heaviest duty applications and especially small radii down to 5 x d • Highly flexible, soft design • PVC outer jacket • Shielded • Oil-resistant • Flame-retardant



1. Outer jacket: Pressure extruded, oil-resistant PVC mixture
2. Overall shield: Extremely bending-stable braid made of tinned copper wires
3. Overall banding: Plastic fleece
4. Core insulation: Mechanically high-quality TPE mixture
5. Conductor: Very finely stranded special conductors of particularly soft and bending resistant 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 with especially soft and bending resistant design, made of bare copper wires.
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	Cores wound in a layer with especially short pitch length.
	Core identification	Cores < 0.75mm²: Colour code in accordance with DIN 47100.. Cores ≥ 0.75mm²: Black cores with white numbers, one green-yellow core.
	Intermediate layer	Fleece banding over the outer layer.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
	Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Jet black (similar to RAL 9005) Printing: white

„00000 m*** igus chainflex CFSOFT2.--① -----② 300/500V 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 CFSOFT2.02.03 (3x0.25)C 300/500 ...



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



Data sheet

chainflex® CFSOFT2



Control cable (Class 7.1.2.1) ● For heaviest duty applications and especially small radii down to 5 x d ● Highly flexible ● soft design ● PVC outer jacket ● Shielded ● Oil-resistant ● Flame-retardant

Dynamic information

	Bend radius	e-chain® linear flexible fixed	minimum 5 x d minimum 4 x d minimum 3 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	10m/s 5m/s
	a max.		80m/s ²
	Travel distance	Short, very fast applications with small radii and restricted installation space, 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	10 million	15 million	20 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
+5/+15	6.8	7.5	8.5
+15/+60	5	6	7
+60/+70	6.8	7.5	8.5

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	300/500V (following DIN VDE 0298-3) 300V (following UL)
	Testing voltage	2000V (following DIN EN 50395)



Example image

igus® chainflex® CFSOFT2

Data sheet

chainflex® CFSOFT2



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Properties and approvals

	UV resistance	Medium
	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)
	PTFE-free	The design of these products does not contain PTFE
	UL-verified	Certificate No. V293650: „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 2. The outer jacket material of this series complies with CF5.10.07 - 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	3-8	10493	2464	300	80
0.34	4	10493	2464	300	80
0.5	4	10493	2464	300	80
0.75	4	10493	2464	300	80



Example image

igus® chainflex® CFSOFT2

Data sheet

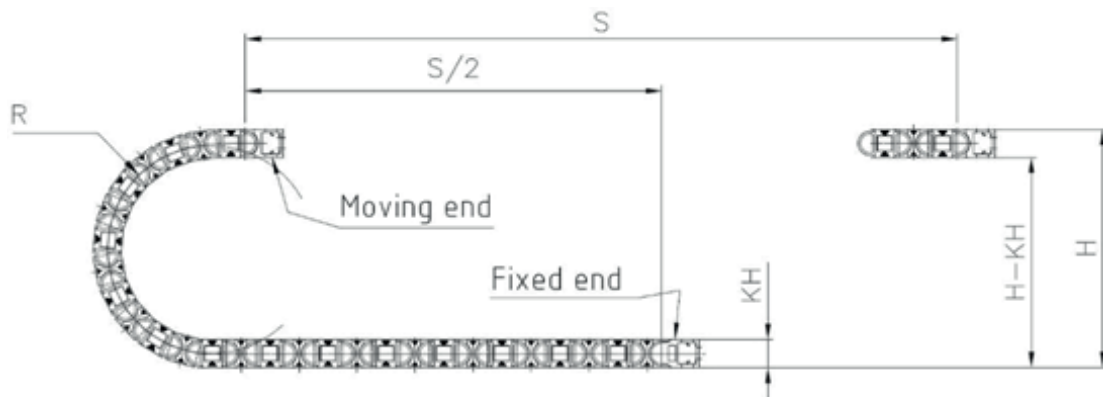
chainflex® CFSOFT2



Control cable (Class 7.1.2.1) ● For heaviest duty applications and especially small radii down to $5 \times d$ ● Highly flexible ● soft design ● PVC outer jacket ● Shielded ● Oil-resistant ● Flame-retardant

Typical lab test setup for this cable series

Test bend radius R	approx. 15 - 28 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 heaviest duty applications and especially small radii down to $5 \times d$, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 1
- Light oil influence, Class 2
- No torsion, Class 1
- Especially soft cable design, for reduced forces
- Pick and place machines, automatic doors, cleanroom, very quick handling



Example image

igus® chainflex® CFSOFT2

Data sheet

chainflex® CFSOFT2



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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]
CFSOFT2.02.03	(3x0.25)C	6.0	17	41
CFSOFT2.02.08	(8x0.25)C	7.5	38	86
CFSOFT2.03.04	(4x0.34)C	6.5	24	50
CFSOFT2.05.04	(4x0.5)C	7.5	36	80

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]	Maximum current rating at 30 °C [A]
0.25	79.0	5
0.34	57.0	7
0.5	39.0	10
0.75	26.0	14

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



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



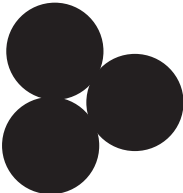
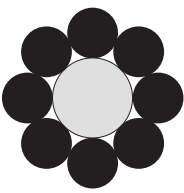
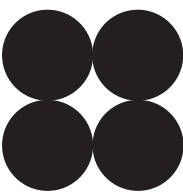
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Design table

Part No.	Number of cores	Core design	Part No.	Number of cores	Core design
CFSOFT2.XX.03	3		CFSOFT2.XX.08	8	
CFSOFT2.XX.04	4				



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



Example image

Data sheet

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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
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

