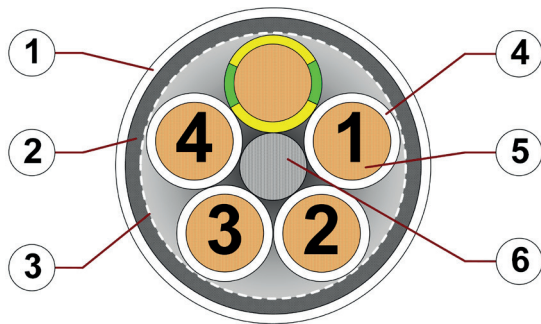


Data sheet

chainflex® CFCLEAN1



Control element for heaviest duty applications in e-skin® flat • PTFE foil wrap • Shielded
• Highly abrasion-resistant • PVC-free



1. Outer film: Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap,
2. Overall shield: Extremely bending-resistant braiding made of tinned copper wires
3. Banding: Plastic fleece
4. Core insulation: Mechanically high-quality FEP mixture
5. Conductor: Very finely stranded special conductors with especially 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 FEP mixture.



Core structure

Cores wound in a layer with especially short pitch length.



Core identification

Cores < 0.5mm²: Colour code in accordance with DIN 47100.
Cores ≥ 0.5mm²: White cores with black numbers, one green-yellow core.



Overall shield

Extremely bending-resistant braiding made of tinned copper wires.
Coverage linear approx. 70%, optical approx. 90%



Outer film

Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat.
Colour: White
Printing: Black

„00000 m“* igus chainflex CFCLEAN1.---① ----② 300/300V E310776

RU AWM Style 22417 90°C 300V CE UKCA 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 **CFCLEAN1.02.04 (4x0.25)C 300/300V** ...



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-skin® flat linear fixed	minimum 40mm minimum 3 x d
	Temperature	e-skin® flat linear fixed	-10°C up to +80°C -25°C up to +90°C (following DIN EN 50305)
	v max.	unsupported	2m/s
	a max.		40m/s ²
	Travel distance	Short, very fast applications with small radii and restricted installation space in an e-skin® flat	

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

Electrical information

	Nominal voltage	300/300V 300V (following UL)
	Testing voltage	2000V



Example image

Data sheet

chainflex® CFCLEAN1



Control element for heaviest duty applications in e-skin® flat ● PTFE foil wrap ● Shielded
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Properties and approvals



Silicone-free

Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)



UL-verified

Certificate No. V293560: „igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“



UL AWM

Details see table UL/CSA AWM



REACH

In accordance with regulation (EC) No. 1907/2006 (REACH)



Lead-free

Following 2011/65/EC (RoHS-II/RoHS-III)



Cleanroom

Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242



CE

Following 2014/35/EU



igus 4-year 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 [mm²]	Number of cores	UL style	UL Voltage Rating [V]	UL Temperature Rating [°C]
0.25	4	22417	300	90
0.34	2-7	22417	300	90
0.5	4	22417	300	90
0.75	4-5	22417	300	90
1	2	22417	300	90

Example image

Data sheet

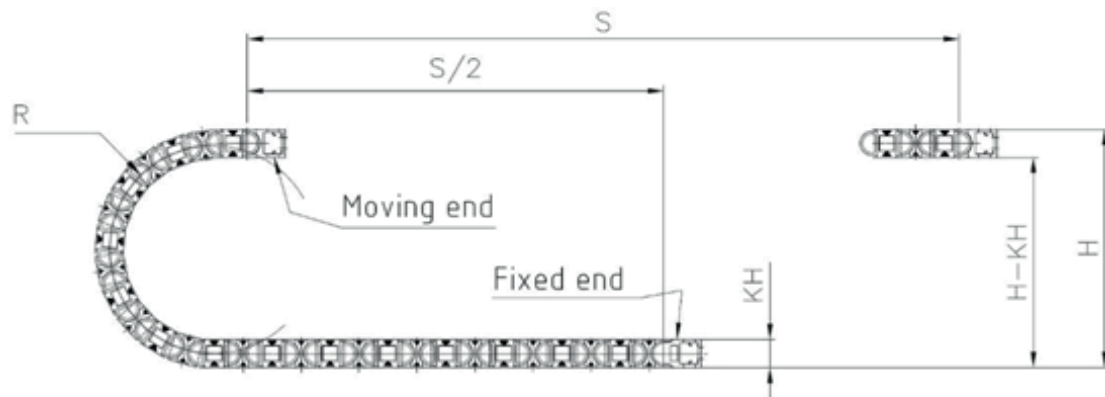
chainflex® CFCLEAN1



Control element for heaviest duty applications in e-skin® flat ● PTFE foil wrap ● Shielded
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Typical lab test setup for this cable series

Test bend radius R	approx. 70mm
Test travel S	approx. 0,8m
Test duration	minimum 10 - 20 million double strokes
Test speed	approx. 3m/s
Test acceleration	approx. 20m/s ²



Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom



chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.



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



Example image

Data sheet

chainflex® CFCLEAN1



Control element for heaviest duty applications in e-skin® flat • PTFE foil wrap • Shielded
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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]
CFCLEAN1.02.04	(4x0.25)C	3.5	21	27
CFCLEAN1.03.02	(2x0.34)C	3.5	17	22
CFCLEAN1.03.07	(7x0.34)C	5.0	40	50
CFCLEAN1.05.04	(4G0.5)C	5.0	36	49
CFCLEAN1.07.04	(4G0.75)C	5.0	50	63
CFCLEAN1.07.05	(5G0.75)C	5.5	58	74
CFCLEAN1.10.02	(2x1.0)C	5.0	37	49

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	74	7
0.34	55	9
0.5	39	12
0.75	26	15
1.0	20	18

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

Design table

Part No.	Number of cores	Core design	Part No.	Number of cores	Core design
CFCLEAN1.XX.02	2		CFCLEAN1.XX.05	5	
CFCLEAN1.XX.04	4		CFCLEAN1.XX.07	7	



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



Example image

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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



Example image

