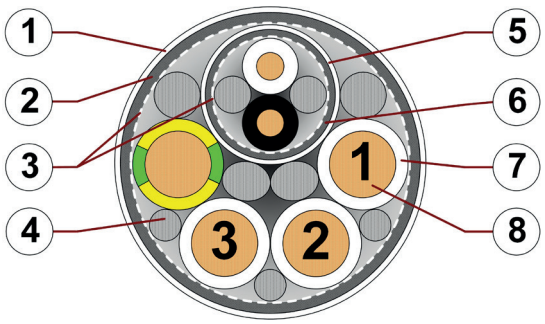
Data sheet
chainflex® CFCLEAN7

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

Example image



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. Filler: Plastic yarn
5. Element shield: Extremely bending-resistant braiding made of tinned copper wires
6. Element banding: Plastic fleece
7. Core insulation: Mechanically high-quality FEP mixture
8. Conductor: Very finely stranded special conductors with especially soft and bending resistantdesign, made of bare copper wires

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	**Power cores:** White cores with black numbers 1-3, one green-yellow core. **1 Control pair:** white, black
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 CFCLEAN7.--.--① ----② 600/1000V E310776

ЯU AWM Style ③ 90°C 600V 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)
③ Printing UL style (see related chapter)
Example: ... chainflex **CFCLEAN7.15.04 (4G1.5)C 600/1000V** ...

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

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**	minimum 70mm
	fixed	minimum 3 x d
Temperature	**e-skin® flat linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
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	600/1000V 600V (following UL)
Testing voltage	300 V

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Example image

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

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]
0.34	2	22418	600	90
1.5	4	22418	600	90
2.5	1	11975	600	90

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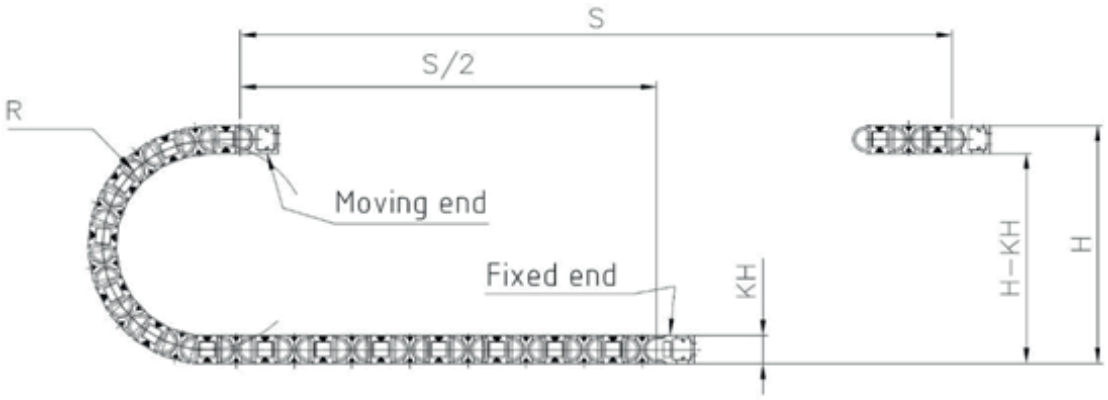
Example image

Typical lab test setup for this cable series

Test bend radius R	approx. 70 mm
Test travel S	approx. 0.8m
Test duration	minimum 10 - 20 million double strokes
Test speed	approx. 3m/s
Test acceleration	approx. 20m/s²



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.

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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]
CFCLEAN7.15.03.02.01	(4x1.5+(2x0.34)C)C	9.5	126	176
CFCLEAN7.15.04	(4x1.5)C	8.0	94	131
CFCLEAN7.PE.25.01	(1G2.5)C	4.5	41	73

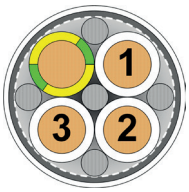
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

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]
0.34	55	9
1.5	13.3	22
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.

Design table

Part No.	Number of cores	Core design
CFCLEAN7.15.03.02.01	4+1x2	
CFCLEAN7.15.04	4	
CFCLEAN7.PE.25.01	1