CFCLEAN

Cable elements for cleanroom applications

chainflex® type	Bend radius e-skin® flat [factor x d]	Temperature e-skin® flat from/to [°C]	Approvals and standards	v max. [m/s] unsupported	a max.	Page	
CFCLEAN cable elements for cleanroom applications							
Information about e-skin® flat with chainflex® CFCLEAN						434	
Control elements							
CFCLEAN1	70	-10/+80		2	40	438	New
Coax elements							
CFCLEAN2	70	-10/+80		2	40	440	New
Data elements							
CFCLEAN3	70	-10/+80		2	40	442	New
Measuring system elements							
CFCLEAN4	70	-10/+80		2	40	444	New
Motor elements							
CFCLEAN6	70	-10/+80		2	40	446	New
CFCLEAN7	70	-10/+80		2	40	448	New
Bus elements							
CFCLEAN8	70	-10/+80		2	40	450	New

chainflex® guarantee

These series are solutions for special applications, please contact igus® for information about the service life guarantee:

Phone +49-2203 9649-0
info@igus.de

Guarantee igus chainflex 36 up to 36 months guarantee

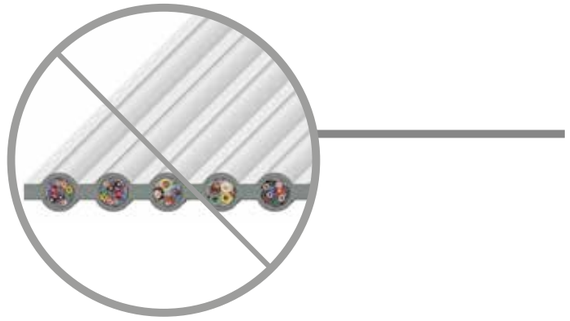
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

e-skin® flat ...

... increases your overall effectiveness
... generates higher production yields
... modular and compact
... resource- and maintenance-friendly
... www.igus.eu/e-skin-flat

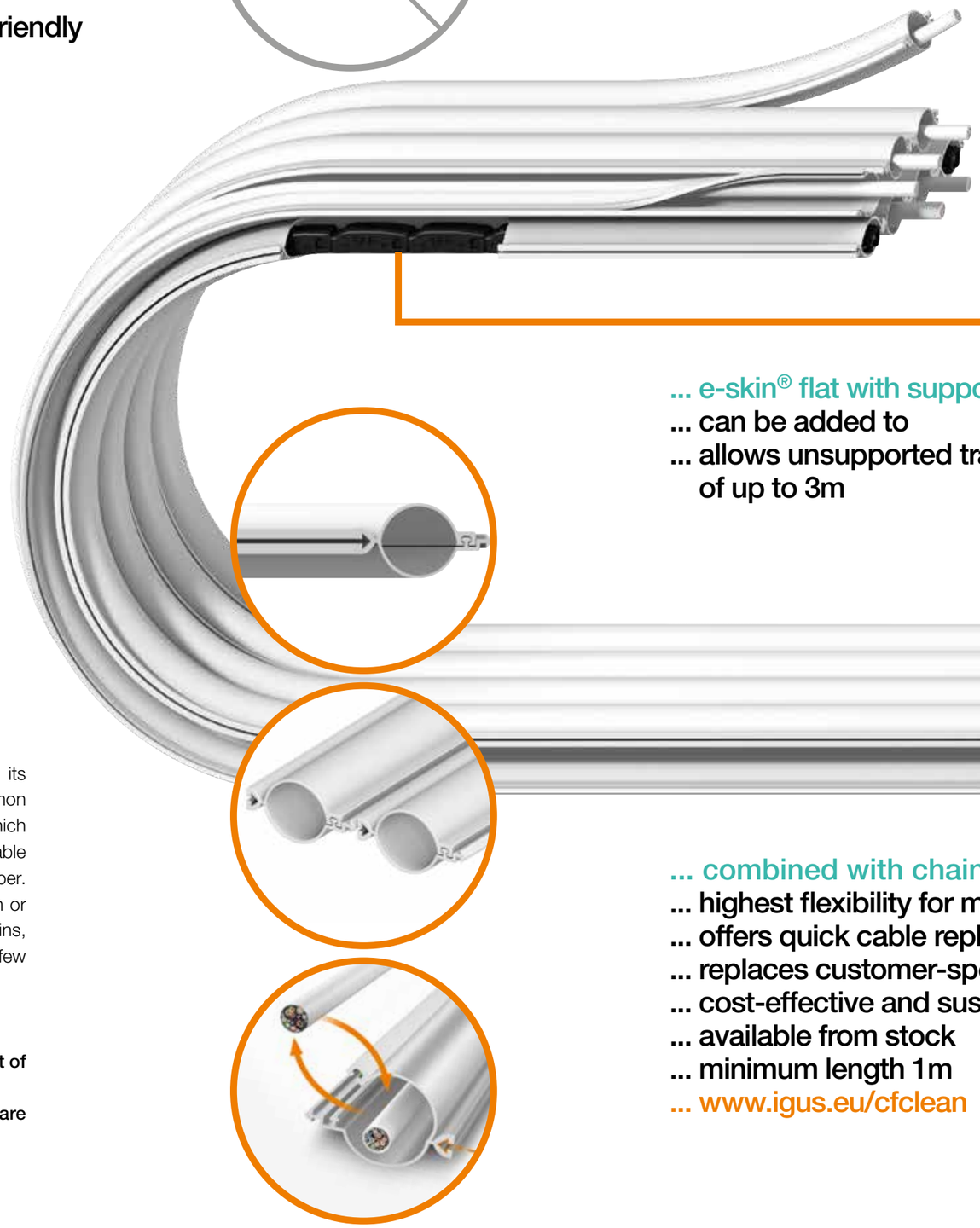
clean-room



Commercially available ribbon cables with permanently integrated cable elements: the entire system must be replaced if damaged.

Fraunhofer IPA TESTED DEVICE

e-skin® flat system certified according to EN ISO Class 1
Report IG 2102-1212



... e-skin® flat with support chain SKF.S
... can be added to
... allows unsupported travel lengths of up to 3m

... combined with chainflex® CFCLEAN
... highest flexibility for machine development
... offers quick cable replacement
... replaces customer-specific flat ribbon cable
... cost-effective and sustainable
... available from stock
... minimum length 1m
... www.igus.eu/cfclean

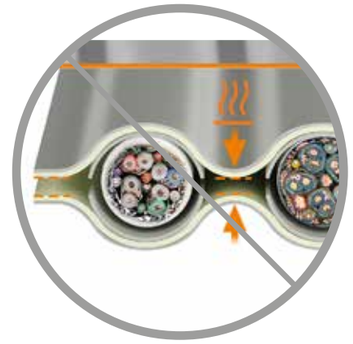
The main advantages of the e-skin® flat are its modularity and ease of maintenance. Unlike common solutions that use defined flat ribbon cables, in which stranded elements are firmly fixed, the e-skin® flat cable guide system is designed with an openable chamber. Flexible chainflex® CFCLEAN cable elements (with or without connectors), e-skin® flat with support chains, hoses, etc. can now be replaced or added in a few minutes.

- **Highly efficient in prototype phases**
- **Maximum availability due to easy replacement of individual elements**
- **Saving resources, as only individual elements are replaced in case of damage**

chainflex® CFCLEAN ...

... made for the e-skin® flat
... great flexural strength thanks to special very finely stranded conductors
... protected by highly abrasion-resistant heat-sealed film
... no outer jacket, so it is small and lightweight
... for energy, bus and data
... available from stock ...
... www.igus.eu/cfclean

Commercially available ribbon cables
with permanently welded cable elements



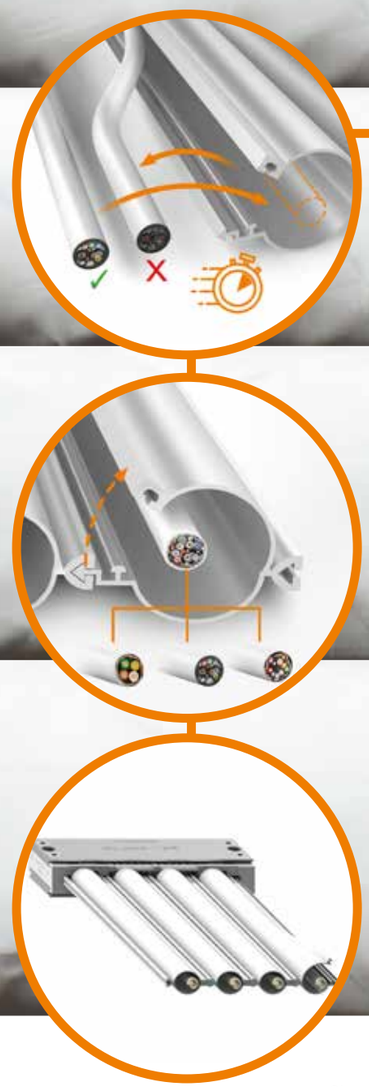
Info

CFCLEAN3 DATA ELEMENTS

CFCLEAN8 BUS ELEMENTS

CFCLEAN1 CONTROL ELEMENTS

CFCLEAN6 MOTOR ELEMENTS



e-skin® flat cable guide systems combined with chainflex® CFCLEAN cable elements, constitute the further development of the conventional PTFE trackless cables for cables guides in the production environment of displays, semiconductors and OLEDs as well as in medical technology. The strengths of the PTFE ribbon cable have been enhanced and the intrinsic weaknesses eliminated. The new e-skin® flat cable guide system is the result of this refinement.

- Stiff cable jackets prevent system bending
- Low restoring forces:
  ... due to highly flexible stranded structures
  ... special conductors
  ... no outer jacket required
- CFCLEAN chainflex® adapted to the application with up to 21% less weight than conventional cables
- About 16% smaller diameter than standard cables with jacket
- Minimum order length 1m
- All standard core/cross section combinations: data, bus, control, motor – available from stock, with a guarantee of up to 36 months

clean-room

Guarantee igus chainflex 36 up to 36 months guarantee

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

New

Control elements | chainflex® CFCLEAN1

Example image

20 million
Double strokes guaranteed

Min. 70mm
Bend radius e-skin® flat

3m
Travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Lightweight, small, abrasion-resistant, with service life guarantee

Dynamic information

Bend radius	**e-skin® flat linear**	min. 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® 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

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

Electrical information

Nominal voltage	300/300V
Testing voltage	2000V

Properties and approvals

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“
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
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical mechanical 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.

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

CFCLEAN1

Guarantee igus chainflex 36 up to 36 months guarantee

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

New

Coax elements | chainflex® CFCLEAN2

20 million
Double strokes guaranteed

Min. 70mm
Bend radius e-skin® flat

3m
Travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Lightweight, small, abrasion-resistant, with service life guarantee

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® 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

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	White core with black imprint ▶ Product range table
Element 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

Electrical information

Nominal voltage	300/300V
Testing voltage	2000V

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. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
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
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical mechanical 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.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN2.KOAX1.03	3xHF75-0.3/1.6	6.5	23	57

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

Part No.	Characteristic wave impedance approx. [Ω]	Core identification
CFCLEAN2.KOAX1.03	75	Coax 75Ohm -1-, Coax 75Ohm -2-, Coax 75Ohm -3-

New

Data elements | chainflex® CFCLEAN3

Example image

20 million
Double strokes guaranteed

Min. 70mm
Bend radius e-skin® flat

3m
Travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Lightweight, small, abrasion-resistant, with service life guarantee

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® 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

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 twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	▶ Product range table
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

Electrical information

Nominal voltage	300/300V
Testing voltage	2000V

Properties and approvals

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“
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
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical mechanical 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.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN3.01.05.02	(5x(2x0.14))C	5.0	33	43
CFCLEAN3.01.06.02	(6x(2x0.14))C	5.5	36	50
CFCLEAN3.01.08.02	(8x(2x0.14))C	6.0	47	61
CFCLEAN3.02.03.02	(3x(2x0.25))C	5.0	34	44
CFCLEAN3.02.04.02	(4x(2x0.25))C	5.5	42	58
CFCLEAN3.02.05.02	(5x(2x0.25))C	5.5	50	63
CFCLEAN3.02.06.02	(6x(2x0.25))C	6.0	52	70

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

Part No.	Core identification
CFCLEAN3.01.05.02	brown/white, green/white, yellow/white, grey/white, pink/white
CFCLEAN3.01.06.02	brown/white, green/white, yellow/white, grey/white, pink/white, blue/white
CFCLEAN3.01.08.02	brown/white, green/white, yellow/white, grey/white, pink/white, blue/white, red/white black/white
CFCLEAN3.02.03.02	brown/white, green/white, yellow/white
CFCLEAN3.02.04.02	brown/white, green/white, yellow/white, grey/white
CFCLEAN3.02.05.02	brown/white, green/white, yellow/white, grey/white, pink/white
CFCLEAN3.02.06.02	brown/white, green/white, yellow/white, grey/white, pink/white, blue/white

Measuring system elements | chainflex® CFCLEAN4

New

Example image

20 million
Double strokes guaranteed

Min. 70mm
Bend radius e-skin® flat

3m
Travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Lightweight, small, abrasion-resistant, with service life guarantee

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® 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

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	According to measuring system specification.
Core identification	According to measuring system specification.
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

Electrical information

Nominal voltage	300/300V
Testing voltage	2000V

Properties and approvals

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“
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
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical mechanical 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.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN4.015	(4x(2x0.14)+4x0.5)C	6.5	60	77

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

Part No.	Core group	Colour code
CFCLEAN4.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green

New

Motor elements | chainflex® CFCLEAN6

20 million
Double strokes guaranteed

Min. 70mm
Bend radius e-skin® flat

3m
Travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Highly abrasion-resistant
- PVC-free

Lightweight, small, abrasion-resistant, with service life guarantee

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® 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

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 identification	Green-yellow
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	600/1000V
Testing voltage	3000V

Properties and approvals

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“
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
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical mechanical 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.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN6.PE.25.01	1G2.5	4.0	25	61

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

New

Motor elements | chainflex® CFCLEAN7

Example image

20 million
Double strokes guaranteed

Min. 70mm
Bend radius e-skin® flat

3m
Travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Lightweight, small, abrasion-resistant, with service life guarantee

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® 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

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

Electrical information

Nominal voltage	600/1000V
Testing voltage	3000V

Properties and approvals

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“
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
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical mechanical 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.

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	(4G1.5+(2x0.34)C)C	9.5	126	176
CFCLEAN7.15.04	(4G1.5)C	8.0	94	131

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

New

Bus elements | chainflex® CFCLEAN8

Example image

20 million
Double strokes guaranteed

Min. 70mm
Bend radius e-skin® flat

3m
Travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Lightweight, small, abrasion-resistant, with service life guarantee

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® 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

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	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
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

Electrical information

Nominal voltage	300/300V
Testing voltage	2000V

Properties and approvals

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“
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
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical mechanical 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.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Ethernet/CAT5e				
CFCLEAN8.045	(4x(2x0.14))C	5.5	34	47

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

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Ethernet/CAT5e			
CFCLEAN8.045	100	4x(2x0.14)	white/blue, white/orange, white/green, white/brown