

Control cables



chainflex® Cable	Jacket	Shield	Bend radius, e-chain® [factor x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Seite
Control cables										
CF880	PVC		12.5	+5/+70				3	20	56
CF881	PVC	✓	12.5	+5/+70				3	20	60
CF130.UL	PVC		7.5	+5/+70		✓		3	2	64
CF140.UL	PVC	✓	7.5	+5/+70				3	2	68
CF150.UL	PVC		7.5	+5/+70		✓	✓	3	2	72 New
CF160.UL	PVC	✓	7.5	+5/+70		✓		3	2	76 New
CF5	PVC		6.8	+5/+70		✓	✓	10	5	80
CF6	PVC	✓	6.8	+5/+70		✓		10	5	84 New
CFSOFT1	PVC		5	+5/+70		✓		10	5	88
CFSOFT2	PVC	✓	5	+5/+70		✓		10	5	90
CF890	iguPUR		12.5	-20/+80		✓		3	20	92
CF891	iguPUR	✓	12.5	-20/+80		✓		3	20	96
CF77.UL.D	PUR		6.8	-25/+80		✓	✓	10	5	100
CF78.UL	PUR	✓	6.8	-25/+80		✓		10	5	104
CF2	PUR	✓	5	-20/+80		✓		10	5	108
CF9	TPE		5	-35/+100		✓	✓	10	6	112 New
CF10	TPE	✓	5	-35/+100		✓		10	6	116 New
CF9.UL	TPE		5	-35/+100		✓	✓	10	6	120
CF10.UL	TPE	✓	5	-35/+100		✓		10	6	124
CF98	TPE		4	-35/+90		✓	✓	10	6	128
CF99	TPE	✓	4	-35/+90		✓		10	6	130
Twistable control cables (twistable cables chapter ► Page 370)										
CF77.UL.D	PUR		6.8	+25/+80		✓	✓			376
CFROBOT2	PUR	✓	10	+25/+80		✓	✓			380

36-month chainflex® guarantee
Guaranteed service life for predictable reliability
► Selection table from page 52

www.igus.eu/chainflexlife

Guarantee
igus chainflex

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36 months guarantee
on all igus products

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

chainflex® guarantee

▶▶

Guaranteed service life ⁽¹⁾

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s]		a max. [m/s²]	Travel distance [m]	Minimum bend radius [factor x d] for travel distance			Minimum bend radius [factor x d] for travel distance			Minimum bend radius [factor x d] for travel distance			Page
			unsupported	gliding												
							< 10m	≥ 10 m	< 10m	≥ 10 m	< 10m	≥ 10 m				
Control cables						5 million (1 million) double strokes *			7.5 million (3 million) double strokes *			10 million (5 million) double strokes *				
	CF880	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10		15 12.5 15	- - -		16 13.5 16	- - -		17 14.5 17	- - -	56
	CF881	+5 / +15 +15 / +60 +70 / +70	3	-	20	≤ 10		15 12.5 15	- - -		16 13.5 16	- - -		17 14.5 17	- - -	60
	CF130.UL	+5 / +15 +15 / +60 +60 / +70	3	2	20	≤ 50		10 7.5 10	12.5 10 12.5		11 8.5 11	13.5 11 13.5		12 9.5 12	14.5 12 14.5	64
	CF140.UL	+5 / +15 +15 / +60 +60 / +70	3	2	20	≤ 50		10 7.5 10	12.5 10 12.5		11 8.5 11	13.5 11 13.5		12 9.5 12	14.5 12 14.5	68
	CF150.UL New!	+5 / +15 +15 / +60 +60 / +70	3	2	20	≤ 50		10 7.5 10	12.5 10 12.5		11 8.5 11	13.5 11 13.5		12 9.5 12	14.5 12 14.5	72
	CF160.UL New!	+5 / +15 +15 / +60 +60 / +70	3	2	20	≤ 50		10 7.5 10	12.5 10 12.5		11 8.5 11	13.5 11 13.5		12 9.5 12	14.5 12 14.5	76
	CF5	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 100		7.5 6.8 7.5	10 7.5 10		8.5 7.8 8.5	11 8.5 11		9.5 8.8 9.5	12 9.5 12	80
	CF6 New!	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 100		7.5 6.8 7.5	10 7.5 10		8.5 7.8 8.5	11 8.5 11		9.5 8.8 9.5	12 9.5 12	84
						10 million			15 million			20 million				
	CFSOFT1	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 5		6.8 5 6.8	- - -		7.5 6 7.5	- - -		8.5 7 8.5	- - -	88
	CFSOFT2	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 5		6.8 5 6.8	- - -		7.5 6 7.5	- - -		8.5 7 8.5	- - -	90

⁽¹⁾ Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife
Values in brackets apply to the CF880 and CF881 series

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

chainflex® guarantee

▶▶

Guaranteed service life ⁽¹⁾

chainflex® cables		Temperature, from/to [°C]	v max. [m/s]		a max. [m/s²]	Travel distance [m]	Minimum bend radius [factor x d] for travel distance			Minimum bend radius [factor x d] for travel distance			Minimum bend radius [factor x d] for travel distance			Seite
			unsupported	gliding												
							< 10m	≥ 10 m	< 10m	≥ 10 m	< 10m	≥ 10 m				
Control cables						5 million (1 million) double strokes *			7.5 million (3 million) double strokes *			10 million (5 million) double strokes *				
	CF890	-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10		15 12.5 15	- - -		16 13.5 16	- - -		17 14.5 17	- - -	92
	CF891	-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10		15 12.5 15	- - -		16 13.5 16	- - -		17 14.5 17	- - -	96
	CF77.UL.D	-25 / -15 -15 / +70 +70 / +80	10	5	80	≤ 100		8.5 6.8 7.5	10 7.5 10		9.5 7.5 9.5	11 8.5 11		10.5 8.5 10.5	12 9.5 12	100
	CF78.UL	-25 / -15 -15 / +70 +70 / +80	10	5	80	≤ 100		8.5 6.8 7.5	10 7.5 10		9.5 7.5 9.5	11 8.5 11		10.5 8.5 10.5	12 9.5 12	104
	CF2	-20 / -10 -10 / +70 +70 / +80	10	5	80	≤ 100		6.8 5 6.8			7.5 6.8 7.5			8.5 7.5 8.5		108
						5 million			7.5 million			12.5 million				
	CF9	New! -35 / -25 -25 / +90 +90 / +100	10	6	100	> 400		6.8 5 6.8			7.5 6 7.5			8.5 7 8.5		112
	CF10	New! -35 / -25 -25 / +90 +90 / +100	10	6	100	> 400		6.8 5 6.8			7.5 6 7.5			8.5 7 8.5		116
						5 million			7.5 million			10 million				
	CF9.UL	-35 / -25 -25 / +90 +90 / +100	10	6	100	> 400		6.8 5 6.8			7.5 6 7.5			10 7 10		120
	CF10.UL	-35 / -25 -25 / +90 +90 / +100	10	6	100	> 400		6.8 5 6.8			7.5 6 7.5			8.5 7 8.5		124
						20 million			30 million			40 million				
	CF98	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 100		5 4 5			6 5 6			7 6 7		128
	CF99	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 100		5 4 5			6 5 6			7 6 7		130

⁽¹⁾ Guaranteed service life for these series (details ▶ see page 28-29)

* Higher number of double strokes? Calculate service life online: ▶ www.igus.eu/chainflexlife
Values in brackets apply to the CF890 and CF891 series

Guarantee
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36

up to 36 months guarantee

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



Control cable | PVC | chainflex® CF880

36 5 million
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Flame-retardant

Dynamic information

	Bend radius	e-chain® linear	minimum 12.5 x d
		flexible	minimum 10 x d
		fixed	minimum 7 x d
	Temperature	e-chain® linear	+5°C up to +70°C
		flexible	-5°C up to +70°C (following DIN EN 60811-504)
		fixed	-15°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	3m/s
	a max.		20m/s²
	Travel distance		Unsupported travels up to 10 m, Class 1

Cable structure

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

Electrical information

	Nominal voltage	300/500V 300V (following UL)
	Testing voltage	2000V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

Properties and approvals

	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)
	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 datasheet for details ► www.igus.eu/CF880
	NFPA	Following NFPA 79-2018, chapter 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

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]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Guarantee
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chainflex cable
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service life
calculator based
on 2 billion test
cycles per year

CFRIP

UL US

UL US

nec

NFPA

CUPA

DNV

EAC

REACH

RoHS

clean-room

7

CE

UKCA

Guarantee
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up to 36 months guarantee

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guarantee and
service life
calculator based
on 2 billion test
cycles per year

UL

57

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36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

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

Control cable | PVC | chainflex® CF880

Class 3.1.1.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

igus® chainflex® CF880

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF880.05.02	2x0.5	5.0	11	32
CF880.05.03	3G0.5	5.5	16	37
CF880.05.04	4G0.5	6.0	21	46
CF880.05.05	5G0.5	6.5	26	55
CF880.05.07	7G0.5	7.5	37	73
CF880.05.12	12G0.5	8.5	63	108
CF880.05.18	18G0.5	10.0	94	158
CF880.05.25	25G0.5	12.0	128	227
CF880.07.02	2x0.75	5.5	16	40
CF880.07.03	3G0.75	6.0	24	49
CF880.07.04	4G0.75	6.5	32	61
CF880.07.05	5G0.75	7.0	40	73
CF880.07.07	7G0.75	8.0	56	99
CF880.07.12	12G0.75	10.0	94	152
CF880.07.18	18G0.75	11.5	140	167
CF880.07.25	25G0.75	13.5	194	284
CF880.10.02	2x1.0	6.0	21	48
CF880.10.03	3G1.0	6.5	32	58
CF880.10.04	4G1.0	7.0	42	62
CF880.10.05	5G1.0	7.5	52	86
CF880.10.07	7G1.0	8.5	73	116
CF880.10.12	12G1.0	10.5	124	182
CF880.10.18	18G1.0	12.5	186	278
CF880.10.25	25G1.0	15.0	258	393
CF880.15.02	2x1.5	6.5	32	64
CF880.15.03	3G1.5	7.0	47	82
CF880.15.04	4G1.5	7.5	63	104
CF880.15.05	5G1.5	8.5	78	120
CF880.15.07	7G1.5	10.0	109	167
CF880.15.12	12G1.5	12.0	186	260
CF880.15.18	18G1.5	14.5	279	370
CF880.15.25	25G1.5	17.5	387	514

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.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF880.25.03	3G2.5	8.5	78	120
CF880.25.04	4G2.5	9.0	103	150
CF880.25.05	5G2.5	10.0	129	184
CF880.25.07	7G2.5	12.0	181	256
CF880.25.12	12G2.5	15.0	327	414

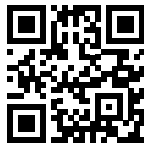
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core x = without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



chainflex® CF880 in a short travel application

EPLAN download, configurators ► www.igus.eu/CF880



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



Control cable | PVC | chainflex® CF881



5 million
Double strokes guaranteed



12.5 x d
Bend radius, e-chain®



10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant

Dynamic information

	Bend radius	e-chain® linear	minimum 12.5 x d
		flexible	minimum 10 x d
		fixed	minimum 7 x d
	Temperature	e-chain® linear	+5°C up to +70°C
		flexible	-5°C up to +70°C (following DIN EN 60811-504)
		fixed	-15°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	3m/s
	a max.		20m/s²
	Travel distance		Unsupported travels up to 10 m, Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	Cores wound with an optimised pitch length.
	Core identification	Black cores with white numbers, one green-yellow core.
	Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
	Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

	Nominal voltage	300/500V 300V (following UL)
	Testing voltage	2000V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

Properties and approvals

	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)
	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 data sheet for details ► www.igus.eu/CF881
	NFPA	Following NFPA 79-2018, chapter 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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
	UK CA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

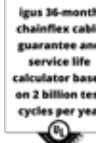
Guaranteed service life (details see page 28-29)

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]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices



EPLAN download, configurators ► www.igus.eu/CF881

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2022

EU2022



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



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF881.05.03	(3G0.5)C	6.0	28	47
CF881.05.04	(4G0.5)C	6.5	35	54
CF881.05.05	(5G0.5)C	7.0	41	65
CF881.05.07	(7G0.5)C	8.0	59	75
CF881.05.12	(12G0.5)C	9.0	91	125
CF881.05.18	(18G0.5)C	11.0	136	177
CF881.05.25	(25G0.5)C	13.0	210	243
CF881.07.02	(2x0.75)C	6.5	30	50
CF881.07.03	(3G0.75)C	7.0	37	66
CF881.07.04	(4G0.75)C	7.5	46	72
CF881.07.05	(5G0.75)C	8.0	61	87
CF881.07.07	(7G0.75)C	9.0	83	112
CF881.07.12	(12G0.75)C	10.5	124	170
CF881.07.18	(18G0.75)C	12.0	183	238
CF881.07.25	(25G0.75)C	14.5	222	309
CF881.10.02	(2x1.0)C	6.5	30	52
CF881.10.03	(3G1.0)C	7.0	46	73
CF881.10.04	(4G1.0)C	7.5	63	102
CF881.10.05	(5G1.0)C	8.0	76	110
CF881.10.07	(7G1.0)C	9.5	100	130
CF881.10.12	(12G1.0)C	11.5	167	229
CF881.10.18	(18G1.0)C	13.0	213	281
CF881.10.25	(25G1.0)C	16.0	291	390
CF881.15.02	(2x1.5)C	7.5	60	71
CF881.15.03	(3G1.5)C	7.5	63	87
CF881.15.04	(4G1.5)C	8.5	90	111
CF881.15.05	(5G1.5)C	9.0	94	131
CF881.15.07	(7G1.5)C	11.0	153	183
CF881.15.12	(12G1.5)C	13.0	212	282
CF881.15.18	(18G1.5)C	15.0	399	458
CF881.15.25	(25G1.5)C	18.5	425	573
CF881.25.04	(4G2.5)C	10.0	141	163
CF881.25.05	(5G2.5)C	11.0	149	195
CF881.25.07	(7G2.5)C	13.0	204	262
CF881.25.12	(12G2.5)C	16.0	342	428

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

Order example: **CF881.25.25** - to your desired length (0.5m steps)
CF881 chainflex® series **.25** Code nominal cross section **.25** Number of cores

Order online ► www.igus.eu/CF881

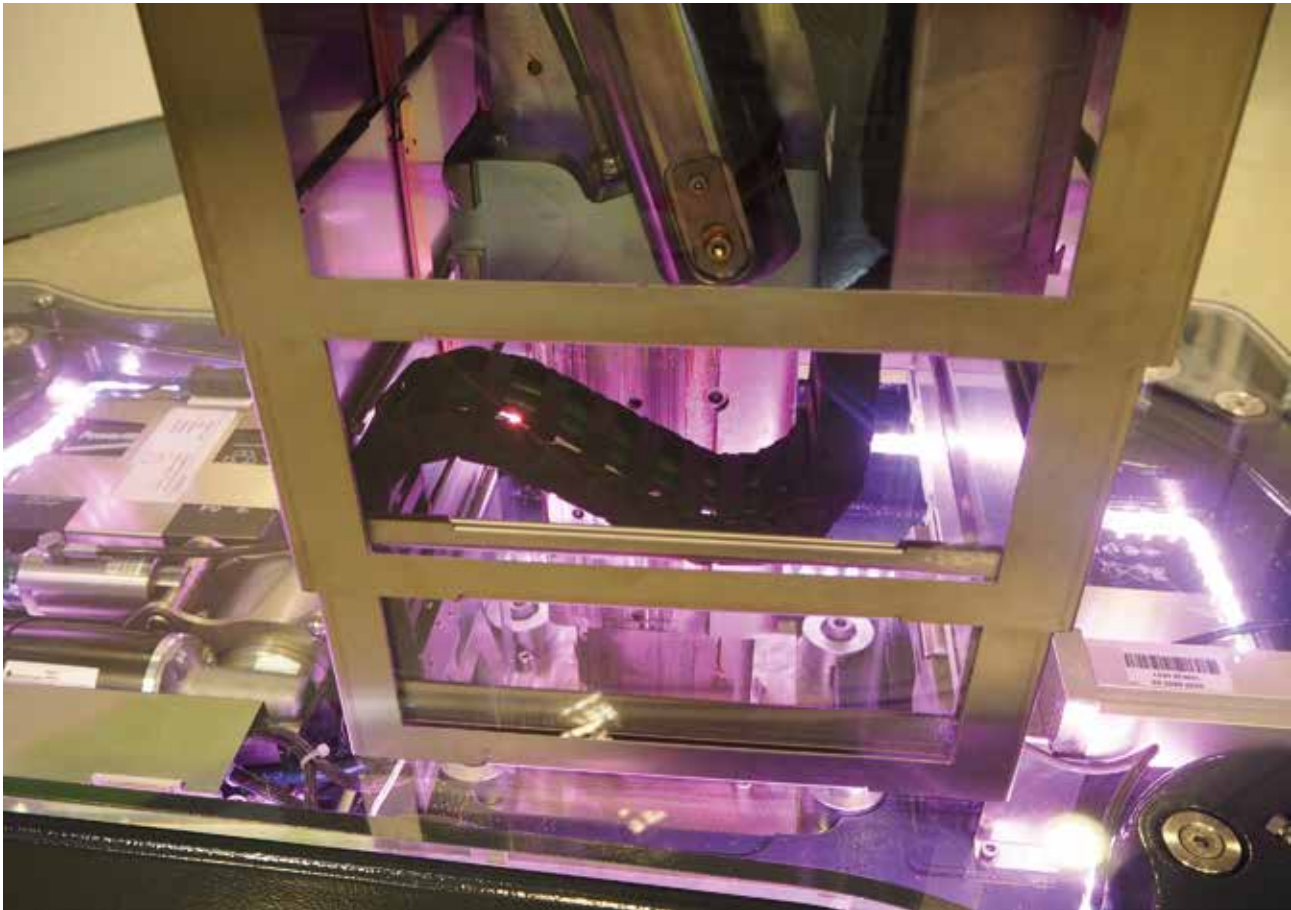
Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



chainflex® CF881 in a mobile surgical table

EPLAN download, configurators ► www.igus.eu/CF881

Control cable | PVC | chainflex® CF130.UL

36

10 million

Double strokes guaranteed

7.5 x d

Bend radius, e-chain®

50m

Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Flame-retardant

Dynamic information

	Bend radius	e-chain® linear	minimum 7.5 x d
		flexible	minimum 6 x d
		fixed	minimum 4 x d
	Temperature	e-chain® linear	+5°C up to +70°C
		flexible	-5°C up to +70°C (following DIN EN 60811-504)
		fixed	-15°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	3m/s
	a max.	gliding	2m/s
	Travel distance	Unsupported travels and up to 50m for gliding applications, Class 4	
	Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

	Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).	
	Core insulation	Mechanically high-quality TPE mixture.	
	Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.	
	Core identification	Cores < 0.5mm²: Colour code in accordance with DIN 47100. Cores ≥ 0.5mm²: Black cores with white numbers, one green-yellow core.	
	Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)	
	CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ► www.igus.eu/CFRIP	

Electrical information

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

EPLAN download, configurators ► www.igus.eu/CF130.UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2022

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Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
	< 10m	≥ 10 m	< 10m	≥ 10 m	< 10m	≥ 10 m
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Without influence of oil, Class 1
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices



chainflex® CF130.UL for woodworking application. e-chain®: E4/light



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

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

65

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.4.1.2

Properties and approvals

	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)
	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 data sheet for details ► www.igus.eu/CF130.UL
	NFPA	Following NFPA 79-2018, chapter 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1 Following 2014/35/EU
	CE	
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guarantee
igus chainflex

36

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

CFRIP

UL

US

UL

US

nec

NEPS

NFPA

CUPA

DNV

EAC

REACH

RoHS

Cleanroom

UL

US

CE

UK

CA

Example image

Control cable | PVC | chainflex® CF130.UL

Strip cables 50% faster with CFRIP® tear strip

igus® chainflex® CF130.UL

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF130.02.03.UL	3x0.25	5.0	9	26
CF130.02.04.UL	4x0.25	5.5	11	35
CF130.02.06.UL	6x0.25	6.0	16	48
CF130.02.07.UL	7x0.25	6.5	19	56
CF130.02.12.UL	12x0.25	8.5	33	96
CF130.02.18.UL	18x0.25	10.0	46	123
CF130.02.20.UL	20x0.25	10.5	51	145
CF130.02.25.UL	25x0.25	11.5	66	164
CF130.02.30.UL	30x0.25	12.5	75	188
CF130.03.02.UL	2x0.34	5.0	8	27
CF130.03.05.UL	5x0.34	6.0	18	42
CF130.05.02.UL	2x0.5	5.5	11	38
CF130.05.03.UL	3G0.5	5.5	16	40
CF130.05.04.UL	4G0.5	6.0	21	47
CF130.05.05.UL	5G0.5	6.5	26	56
CF130.05.07.UL	7G0.5	7.5	37	76
CF130.05.12.UL	12G0.5	10.0	63	140
CF130.05.18.UL	18G0.5	12.0	94	192
CF130.05.25.UL	25G0.5	13.5	129	259
CF130.07.02.UL	2x0.75	6.0	16	48
CF130.07.03.UL	3G0.75	6.0	23	50
CF130.07.04.UL	4G0.75	6.5	31	60
CF130.07.05.UL	5G0.75	7.0	38	70
CF130.07.07.UL	7G0.75	8.0	54	96
CF130.07.12.UL	12G0.75	11.0	91	175
CF130.07.18.UL	18G0.75	13.5	134	248
CF130.07.25.UL	25G0.75	16.0	186	346
CF130.07.36.UL	36G0.75	19.0	293	531
CF130.07.42.UL	42G0.75	21.0	341	608
CF130.10.02.UL	2x1.0	6.0	21	55
CF130.10.03.UL	3G1.0	6.5	31	61
CF130.10.04.UL	4G1.0	7.0	41	74
CF130.10.05.UL	5G1.0	7.5	50	87
CF130.10.07.UL	7G1.0	9.0	71	118
CF130.10.12.UL	12G1.0	12.5	120	228
CF130.10.18.UL	18G1.0	15.0	179	308
CF130.10.25.UL	25G1.0	17.5	248	410

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

EPLAN download, configurators ► www.igus.eu/CF130.UL

Class 4.4.1.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Guarantee
igus chainflex
36

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

CFRIP
igus chainflex

UL US

UL US

nec

NFPA

CUPA

DNV

EAC

REACH

RoHS

clean-room

7

CE

UK
CA

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF130.15.02.UL	2x1.5	6.5	31	71
CF130.15.03.UL	3G1.5	7.0	46	76
CF130.15.04.UL	4G1.5	8.0	61	93
CF130.15.05.UL	5G1.5	8.5	75	111
CF130.15.07.UL ¹⁷⁾	7G1.5	10.5	105	166
CF130.15.12.UL	12G1.5	13.0	179	288
CF130.15.18.UL	18G1.5	17.0	268	438
CF130.15.25.UL	25G1.5	19.5	371	563
CF130.15.36.UL	36G1.5	23.0	579	887
CF130.25.03.UL	3G2.5	8.5	75	118
CF130.25.04.UL	4G2.5	9.5	100	149
CF130.25.07.UL ¹⁷⁾	7G2.5	12.0	174	250
CF130.25.12.UL	12G2.5	16.5	297	445
CF130.40.03.UL	3G4.0	10.0	119	209
CF130.40.05.UL	5G4.0	12.0	198	294
CF130.60.04.UL	4G6.0	13.0	237	392
CF130.60.05.UL	5G6.0	14.0	299	471

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



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



Control cable | PVC | chainflex® CF140.UL

36

Double strokes guaranteed

7.5 x d

Bend radius, e-chain®

50m

Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Flame-retardant

Dynamic information

	Bend radius	e-chain® linear	minimum 7.5 x d
		flexible	minimum 6 x d
		fixed	minimum 4 x d
	Temperature	e-chain® linear	+5°C up to +70°C
		flexible	-5°C up to +70°C (following DIN EN 60811-504)
		fixed	-15°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	3m/s
	a max.	gliding	2m/s
	Travel distance	Unsupported travels and up to 50m for gliding applications, Class 4	

Cable structure

	Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
	Core identification	Cores < 0.5mm²: Colour code in accordance with DIN 47100. Cores ≥ 0.5mm²: Black cores with white numbers, one green-yellow core.
	Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
	Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
	Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)
	CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ► www.igus.eu/CFRIP

Electrical information

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

EPLAN download, configurators ► www.igus.eu/CF140.UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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Class 4.4.1.1

Properties and approvals

	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)
	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 data sheet for details ► www.igus.eu/CF140.UL
	NFPA	Following NFPA 79-2018, chapter 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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 1. The outer jacket material of this series complies with CF130.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
	CE	Following 2014/35/EU
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
	< 10m	≥ 10 m	< 10m	≥ 10 m	< 10m	≥ 10 m
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



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



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

Control cable | PVC | chainflex® CF140.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF140.02.12.UL	(12x0.25)C	10.5	72	133
CF140.03.05.UL	(5x0.34)C	7.5	36	72
CF140.05.03.UL	(3G0.5)C	7.0	33	72
CF140.05.05.UL	(5G0.5)C	8.0	45	91
CF140.05.18.UL	(18G0.5)C	14.5	147	258
CF140.05.36.UL	(36G0.5)C	18.5	258	468
CF140.07.03.UL	(3G0.75)C	8.0	42	85
CF140.07.04.UL	(4G0.75)C	8.5	51	102
CF140.07.05.UL	(5G0.75)C	9.0	61	115
CF140.07.07.UL	(7G0.75)C	10.0	83	152
CF140.07.12.UL	(12G0.75)C	13.0	136	263
CF140.07.18.UL	(18G0.75)C	15.5	194	359
CF140.07.25.UL	(25G0.75)C	18.0	261	479
CF140.10.02.UL	(2x1.0)C	8.0	35	86
CF140.10.03.UL	(3G1.0)C	8.5	51	105
CF140.10.04.UL	(4G1.0)C	9.0	62	118
CF140.10.05.UL	(5G1.0)C	9.5	74	136
CF140.10.07.UL	(7G1.0)C	10.5	104	176
CF140.10.12.UL	(12G1.0)C	14.0	166	300
CF140.10.18.UL	(18G1.0)C	16.5	240	413
CF140.10.25.UL	(25G1.0)C	19.5	325	562
CF140.15.03.UL	(3G1.5)C	9.0	68	126
CF140.15.04.UL	(4G1.5)C	9.5	86	146
CF140.15.05.UL	(5G1.5)C	9.5	108	168
CF140.15.07.UL ¹⁷⁾	(7G1.5)C	11.5	144	226
CF140.15.12.UL	(12G1.5)C	16.0	233	387
CF140.15.18.UL	(18G1.5)C	19.0	346	463
CF140.15.25.UL	(25G1.5)C	22.5	464	737
CF140.15.36.UL	(36G1.5)C	26.5	663	1150
CF140.25.03.UL	(3G2.5)C	10.5	106	202
CF140.25.04.UL	(4G2.5)C	11.5	140	210

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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

Class 4.4.1.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



chainflex® CF140.UL in a feeder application. e-chain®: easychain®



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



EPLAN download, configurators ► www.igus.eu/CF140.UL

Control cable | PVC | chainflex® CF150.UL

36 10 million Double strokes guaranteed **7.5 x d** Bend radius, e-chain® **50m** Travel distance

- For medium duty applications
- PVC outer jacket
- Flame-retardant
- TC-ER (Power and Control Tray Cable)

UL TC-ER UL 1277 MTW UL 1063 WTTTC UL 2277 DP-1 UL 1690 AWM 2587	CSA: C(UL) CIG/TC Specifications: OIL RES I / SUN RES 75°C wet ≥2.5mm ² 90°C dry DIR BUR ≥2.5 mm ²
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Dynamic information

	Bend radius	e-chain® linear	minimum 7.5 x d
		flexible	minimum 6 x d
		fixed	minimum 4 x d
	Temperature	e-chain® linear	+5°C up to +70°C
		flexible	-5°C up to +70°C (following DIN EN 60811-504)
		fixed	-15°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	3m/s
	a max.	gliding	2m/s
	Travel distance	Unsupported travels and up to 50m for gliding applications, Class 4	
	Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

	Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
	Core insulation	Mechanically high-quality PVC/PA mixture.
	Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
	Core identification	Black cores with white numbers, one green-yellow core.
	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)
	CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ► www.igus.eu/CFRIP

Electrical information

	Nominal voltage	300/500V (following DIN VDE 0298-3) 600V TC-ER, 1000V WTTTC, 600V MTW, 600V AWM
	Testing voltage	2000V (following DIN EN 50395)

EPLAN download, configurators ► www.igus.eu/CF150.UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2022

Class 4.4.2.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil resistant (according to DIN EN 50363-4-1), UL Oil Res I, Class 3
	Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame, FT4
	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 listed	TC-ER UL 1277, WTTTC UL 2277, MTW UL W63
	UL/CSA AWM	See data sheet for details ► www.igus.eu/CF150.UL
	NEC	In accordance with Article 501 Part II 501.10(B) Class I Division 2 and Article 502 Part II 502.10(B), TC-ER cables may be used in Class I and Class II, Division 2 hazardous areas.
	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)
	CE	Following 2014/35/EU
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
	< 10m	≥ 10 m	< 10m	≥ 10 m	< 10m	≥ 10 m
Temperature, from/to [°C]	R min.[factor x d]	R min.[factor x d]	R min.[factor x d]	R min.[factor x d]	R min.[factor x d]	R min.[factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Light oil influence, Class 2
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Unsupported travels and up to 50m for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, laying of cables on cable racks



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

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Example image

UL

Control cable | PVC | chainflex® CF150.UL

Strip cables 50% faster with CFRIP® tear strip

Class 4.4.2.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

igus® chainflex® CF150.UL

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
New CF150.UL.10.03	3G1.0	8.0	30	78
New CF150.UL.10.04	4G1.0	8.5	40	94
New CF150.UL.10.05	5G1.0	9.0	50	112
New CF150.UL.10.07	7G1.0	10.5	70	155
New CF150.UL.10.12	12G1.0	15.0	119	281
New CF150.UL.10.18	18G1.0	19.0	178	425
New CF150.UL.15.03	3G1.5	8.5	45	98
New CF150.UL.15.04	4G1.5	9.0	60	122
New CF150.UL.15.05	5G1.5	10.0	75	148
New CF150.UL.15.07 ¹⁷⁾	7G1.5	12.0	104	205
New CF150.UL.15.12	12G1.5	16.5	178	365
New CF150.UL.15.18	18G1.5	21.0	267	529
New CF150.UL.25.03	3G2.5	9.5	75	133
New CF150.UL.25.04	4G2.5	10.0	100	164
New CF150.UL.25.05	5G2.5	11.0	124	200
New CF150.UL.25.07 ¹⁷⁾	7G2.5	12.0	173	268
New CF150.UL.25.12	12G2.5	18.5	297	502
New CF150.UL.25.18	18G2.5	24.5	445	808

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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



Order example: **CF150.UL.10.03** - to your desired length (0.5m steps)
CF150.UL chainflex® series .10 Code nominal cross section .03 Number of cores



Order online ► www.igus.eu/CF150.UL



Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



The only MTW/TC-ER cable for e-chain® AND cable tray

UL

TC-ER UL 1277
MTW UL 1063
WTTC UL 2277
DP-1 UL 1690
AWM 2587

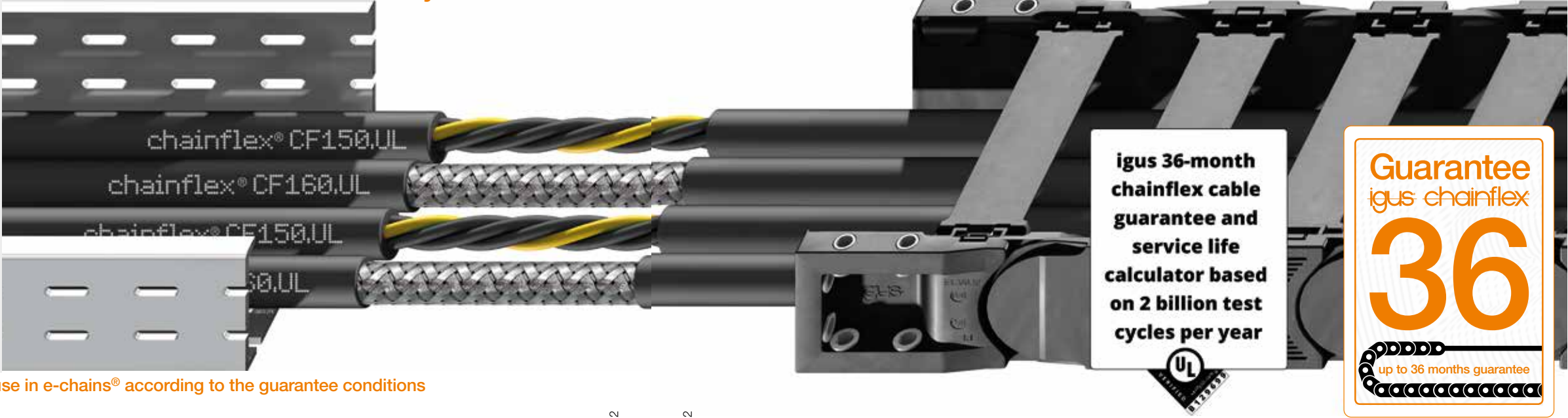
CSA:

C(UL) CIC/TC

Specifications:

OIL RES I / SUN RES
75°C wet ≥2.5mm²
90°C dry
DIR BUR ≥2.5 mm²

* with guaranteed service life for use in e-chains® according to the guarantee conditions



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

Guarantee
igus chainflex
36
up to 36 months guarantee

Control cable | PVC | chainflex® CF160.UL

36 10 million Double strokes guaranteed
7.5 x d Bend radius, e-chain®
50m Travel distance

- For medium duty applications
- PVC outer jacket
- Shielded
- Flame-retardant
- TC-ER (Power and Control Tray Cable)

UL TC-ER UL 1277 MTW UL 1063 WTTTC UL 2277 DP-1 UL 1690 AWM 2587	CSA: C(UL) CIG/TC Specifications: OIL RES I / SUN RES 75°C wet ≥ 2.5mm² 90°C dry DIR BUR ≥ 2.5mm²
--	---

Dynamic information

 Bend radius	e-chain® linear flexible	minimum 7.5 x d
	fixed	minimum 6 x d
 Temperature	e-chain® linear flexible	+5°C up to +70°C
	fixed	-5°C up to +70°C (following DIN EN 60811-504)
 v max.	unsupported	3m/s
 a max.	gliding	2m/s
 Travel distance	Unsupported travels and up to 50m for gliding applications, Class 4	

Cable structure

 Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
 Core insulation	Mechanically high-quality PVC/PA mixture.
 Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
 Core identification	Black cores with white numbers, one green-yellow core.
 Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
 Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
 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)
 CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ► www.igus.eu/CFRIP

Electrical information

 Nominal voltage	300/500V (following DIN VDE 0298-3) 600V TC-ER, 1000V WTTTC, 600V MTW, 600V AWM
 Testing voltage	2000V (following DIN EN 50395)

EPLAN download, configurators ► www.igus.eu/CF160.UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2022

Class 4.4.2.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Properties and approvals

 UV resistance	Medium
 Oil resistance	Oil resistant (according to DIN EN 50363-4-1), UL Oil Res I, Class 3
 Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame, FT4
 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 listed	TC-ER UL 1277, WTTTC UL 2277, MTW UL W63
 UL/CSA AWM	See data sheet for details ► www.igus.eu/CF160.UL
 NEC	In accordance with Article 501 Part II 501.10(B) Class I Division 2 and Article 502 Part II 502.10(B), TC-ER cables may be used in Class I and Class II, Division 2 hazardous areas. Following NFPA 79-2018, chapter 12.9
 NFPA	
 REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
 Lead-free	Following 2011/65/EC (RoHS-II)
 CE	Following 2014/35/EU
 UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Light oil influence, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Unsupported travels and up to 50m for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, laying of cables on cable racks



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Example image

Control cable | PVC | chainflex® CF160.UL

Strip cables 50% faster with CFRIP® tear strip

Class 4.4.2.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

igus® chainflex® CF160.UL

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
New CF160.UL.10.03	(3G1.0)C	9.5	53	121
New CF160.UL.10.04	(4G1.0)C	10.0	66	143
New CF160.UL.10.05	(5G1.0)C	11.0	77	164
New CF160.UL.10.07	(7G1.0)C	12.5	107	220
New CF160.UL.10.12	(12G1.0)C	18.5	177	389
New CF160.UL.10.18	(18G1.0)C	23.5	280	648
New CF160.UL.15.03	(3G1.5)C	10.0	72	149
New CF160.UL.15.04	(4G1.5)C	11.0	89	175
New CF160.UL.15.05	(5G1.5)C	12.0	105	204
New CF160.UL.15.07 ¹⁷⁾	(7G1.5)C	13.5	140	271
New CF160.UL.15.12	(12G1.5)C	20.0	243	478
New CF160.UL.15.18	(18G1.5)C	25.5	373	762
New CF160.UL.25.03	(3G2.5)C	11.0	103	185
New CF160.UL.25.04	(4G2.5)C	12.0	129	219
New CF160.UL.25.05	(5G2.5)C	13.0	159	264
New CF160.UL.25.07 ¹⁷⁾	(7G2.5)C	14.5	223	361
New CF160.UL.25.12	(12G2.5)C	23.5	389	688
New CF160.UL.25.18	(18G2.5)C	29.5	573	1092

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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

Order example: **CF160.UL.10.03** - to your desired length (0.5m steps)
CF160.UL chainflex® series .10 Code nominal cross section .03 Number of cores

Order online ► www.igus.eu/CF160.UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

The only MTW/TC-ER cable for e-chain® AND cable tray

UL
TC-ER UL 1277
MTW UL 1063
WTTTC UL 2277
DP-1 UL 1690
AWM 2587

CSA:
C(UL) CIC/TC

Specifications:
OIL RES I / SUN RES
75°C wet ≥2.5mm²
90°C dry
DIR BUR ≥2.5 mm²

* with guaranteed service life for use in e-chains® according to the guarantee conditions



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

Guarantee
igus chainflex
36
up to 36 months guarantee

Control cable | PVC | chainflex® CF5



10 million
Double strokes guaranteed



6.8 x d
Bend radius, e-chain®



100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Oil-resistant
- Flame-retardant

Dynamic information

	Bend radius	e-chain® linear	minimum 6.8 x d
		flexible	minimum 5 x d
		fixed	minimum 4 x d
	Temperature	e-chain® linear	+5°C up to +70°C
		flexible	-5°C up to +70°C (following DIN EN 60811-504)
		fixed	-15°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	10m/s
	a max.	gliding	5m/s
	Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	
	Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

	Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
	Core insulation	Cores ≤ 0.5mm²: mechanically high-quality TPE mixture. Cores ≥ 0.75mm²: mechanically high-quality PVC mixture.
	Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
	Core identification	Cores < 0.5mm²: Colour code in accordance with DIN 47100. Cores ≥ 0.5mm²: Black cores with white numbers, one green-yellow core.
	Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Moss green (similar to RAL 6005)
	CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ► www.igus.eu/CFRIP

Electrical information

	Nominal voltage	300/500V (following DIN VDE 0298-3) 600V (following UL)
	Testing voltage	2000V (following DIN EN 50395)

EPLAN download, configurators ► www.igus.eu/CF5

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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Class 5.5.2.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

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)
	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 data sheet for details ► www.igus.eu/CF5
	NFPA	Following NFPA 79-2018, chapter 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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, material/cable tested by IPA according to ISO standard 14644-1 Following 2014/35/EU
	CE	
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	7.5	10	8.5	11	9.5	12
+15/+60	6.8	7.5	7.8	8.5	8.8	9.5
+60/+70	7.5	10	8.5	11	9.5	12

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes



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

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Example image

CF5
PVC
6.8 x d

PVC

iguPUR

PUR

TPE

Control cable | PVC | chainflex® CF5

Strip cables 50% faster with CFRIP® tear strip

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF5.02.36	36x0.25	15.0	99	209
CF5.03.15	15x0.34	11.0	55	113
CF5.03.18	18x0.34	12.0	67	143
CF5.03.25	25x0.34	14.0	92	194
CF5.05.02	2x0.5	6.0	11	38
CF5.05.03	3G0.5	6.0	16	41
CF5.05.04	4G0.5	6.5	21	47
CF5.05.05	5G0.5	7.0	25	59
CF5.05.07	7G0.5	8.0	36	78
CF5.05.12	12G0.5	11.0	61	131
CF5.05.18	18G0.5	13.0	91	190
CF5.05.25	25G0.5	16.0	124	281
CF5.05.30	30G0.5	18.0	149	325
CF5.07.03	3G0.75	6.5	23	54
CF5.07.04	4G0.75	7.0	32	67
CF5.07.05	5G0.75	7.5	39	82
CF5.07.07	7G0.75	9.0	56	115
CF5.07.12	12G0.75	12.5	91	189
CF5.07.18	18G0.75	15.0	134	269
CF5.07.25	25G0.75	17.5	190	384
CF5.07.36	36G0.75	22.0	267	587
CF5.07.42	42G0.75	23.5	313	745
CF5.10.03	3G1.0	6.5	31	56
CF5.10.04	4G1.0	7.0	41	78
CF5.10.05	5G1.0	8.0	50	94
CF5.10.07	7G1.0	9.5	74	130
CF5.10.12	12G1.0	13.0	119	227
CF5.10.18	18G1.0	16.5	179	306
CF5.10.25	25G1.0	19.5	248	487
CF5.15.03	3G1.5	7.5	46	74
CF5.15.04	4G1.5	8.0	61	105
CF5.15.05	5G1.5	9.0	75	127
CF5.15.07 ¹⁷⁾	7G1.5	10.5	105	180
CF5.15.12	12G1.5	15.0	179	264
CF5.15.18	18G1.5	19.5	267	478
CF5.15.25	25G1.5	21.5	371	645
CF5.15.36	36G1.5	26.5	529	960

Basic requirements

Travel distance

Oil resistance

Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

CF5
PVC
6.8 x d

Guarantee
igus chainflex
36

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

CFRIP

UL US LISTED

UL US

nec NFPA

CUPA

DNV

EAC

REACH

RoHS

clean-room

CE

UK CA

Class 5.5.2.2

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF5.25.04	4G2.5	10.0	96	170
CF5.25.05	5G2.5	11.0	120	200
CF5.25.07 ¹⁷⁾	7G2.5	13.0	169	279
CF5.25.12	12G2.5	18.5	284	480
CF5.25.18	18G2.5	23.5	427	765
CF5.25.25	25G2.5	27.5	591	1054

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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

chainflex CASE

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase

chainflex® CF5/CF6 for storage retrieval unit: Long travel in longitudinal axis.
e-chain®: Series E4/00 with igus® guide trough made of steel

Guarantee
igus chainflex
36

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

82

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

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Control cable | PVC | chainflex® CF6

36 10 million
Double strokes guaranteed **6.8 x d**
Bend radius, e-chain® **100m**
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic information

	Bend radius	e-chain® linear	minimum 6.8 x d
		flexible	minimum 5 x d
		fixed	minimum 4 x d
	Temperature	e-chain® linear	+5°C up to +70°C
		flexible	-5°C up to +70°C (following DIN EN 60811-504)
		fixed	-15°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	10m/s
	a max.	gliding	5m/s
			80m/s ²
	Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	

Cable structure

	Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
	Core insulation	Cores ≤ 0.5mm² : mechanically high-quality TPE mixture. Cores ≥ 0.75mm² : mechanically high-quality PVC mixture.
	Core structure	Number of cores < 12 : Cores wound in a layer with short pitch length. Number of cores ≥ 12 : Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
	Core identification	Cores < 0.5mm² : Colour code in accordance with DIN 47100. Cores ≥ 0.5mm² : Black cores with white numbers, one green-yellow core.
	Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
	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: Moss green (similar to RAL 6005)
	CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ► www.igus.eu/CFRIP

Electrical information

	Nominal voltage	300/500V (following DIN VDE 0298-3) 600V (following UL)
	Testing voltage	2000V (following DIN EN 50395)

EPLAN download, configurators ► www.igus.eu/CF6

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

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igus

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.1

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)
	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 data sheet for details ► www.igus.eu/CF
	NFPA	Following NFPA 79-2018, chapter 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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 Following 2014/35/EU
	CE	
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	7.5	10	8.5	11	9.5	12
+15/+60	6.8	7.5	7.8	8.5	8.8	9.5
+60/+70	7.5	10	8.5	11	9.5	12

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

Guarantee
igus chainflex
36
up to 36 months guaranteeigus 36-month
chainflex cable
guarantee and
service life
calculator based
on 2 billion test
cycles per year

UL

85

Guarantee
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chainflex cable
guarantee and
service life
calculator based
on 2 billion test
cycles per year

CFRIP

UL US

UL US

nec

NFPA

CUPA

DNV

EAC

REACH

RoHS

clean-room

F

CE

UKCA

Control cable | PVC | chainflex® CF6

Strip cables 50% faster with CFRIP® tear strip

Class 5.5.2.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

igus® chainflex® CF6

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF6.02.04	(4x0.25)C	7.0	29	61
CF6.02.25	(25x0.25)C	14.5	111	260
CF6.03.05	(5x0.34)C	7.5	37	90
CF6.05.02	(2x0.5)C	7.0	30	77
CF6.05.05	(5G0.5)C	8.5	49	106
CF6.05.07	(7G0.5)C	10.0	64	127
CF6.05.09	(9G0.5)C	12.0	80	154
CF6.05.12	(12G0.5)C	13.0	98	232
CF6.05.18	(18G0.5)C	15.0	145	286
CF6.05.25	(25G0.5)C	17.5	192	399
CF6.07.03	(3G0.75)C	8.0	46	98
CF6.07.04	(4G0.75)C	8.5	56	113
CF6.07.05	(5G0.75)C	9.0	67	128
CF6.07.07	(7G0.75)C	10.5	87	152
CF6.07.12	(12G0.75)C	14.0	128	266
CF6.07.18	(18G0.75)C	17.5	196	400
CF6.07.25	(25G0.75)C	19.5	265	536
CF6.10.03	(3G1.0)C	8.0	54	107
CF6.10.04	(4G1.0)C	9.0	65	116
CF6.10.05	(5G1.0)C	9.5	77	136
CF6.10.07	(7G1.0)C	12.0	103	205
CF6.10.12	(12G1.0)C	15.0	161	319
CF6.10.18	(18G1.0)C	19.0	245	482
CF6.10.25	(25G1.0)C	21.0	322	595
CF6.15.03	(3G1.5)C	9.0	72	122
CF6.15.04	(4G1.5)C	9.5	88	155
CF6.15.05	(5G1.5)C	10.5	105	177
CF6.15.07 ¹⁷⁾	(7G1.5)C	12.5	146	258
CF6.15.12	(12G1.5)C	17.0	225	375
CF6.15.18	(18G1.5)C	21.0	345	581
CF6.15.25	(25G1.5)C	24.0	462	865
New CF6.25.03	(3G2.5)C	10.5	107	180
CF6.25.04	(4G2.5)C	11.5	131	222

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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

Order example: CF6.02.04 - to your desired length (0.5m steps)
CF6 chainflex® series .02 Code nominal cross section .04 Number of cores

Order online ► www.igus.eu/CF6

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



chainflex® CF5 and CF6 control cables (green) as well as CF211 measuring system cables (grey) in a screwing station of a car factory. e-chain®: E4/00 system with chainfix clip strain relief devices.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



EPLAN download, configurators ► www.igus.eu/CF6

86 36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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

87



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



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



Control cable | PVC | chainflex® CFSOFT1

36 20 million Double strokes guaranteed

5 x d Bend radius, e-chain®

5m Travel distance, e-chain®

- For heaviest duty applications and especially small radii down to 5 x d
- Highly flexible, soft design
- PVC outer jacket
- Oil-resistant
- Flame-retardant

Dynamic information

	Bend radius	e-chain® linear flexible	minimum 5 x d minimum 4 x d minimum 3 x d
	Temperature	e-chain® linear flexible	+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	10m/s
	a max.	gliding	5m/s
	Travel distance	Short, very fast applications with small radii and restricted installation space, Class 1	

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	Colour code in accordance with DIN 47100.	
	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)	

Electrical information

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

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)

EPLAN download, configurators ► www.igus.eu/CFSOFT1

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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Class 7.1.2.1



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
See data sheet for details ► www.igus.eu/CFSOFT1

Following NFPA 79-2018, chapter 12.9

Certificate No. RU C-DE.ME77.B.00300/19

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

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

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
Following 2014/35/EU

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

Guaranteed service life (details see page 28-29)

Double strokes*	10 million	15 million	20 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	6.8	7.5	8.5
+15/+60	5	6	7
+60/+70	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications and especially small radii down to 5 x 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

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSOFT1.02.03	3x0.25	5.5	9	28
CFSOFT1.02.08	8x0.25	7.0	21	62
CFSOFT1.03.04	4x0.34	6.0	15	39
CFSOFT1.05.04	4x0.5	7.0	21	52

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



Cables available in the chainflex® CASE

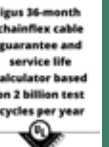
Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



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



Control cable | PVC | chainflex® CFSOFT2

36

20 million

Double strokes guaranteed

5 x d

Bend radius, e-chain®

5m

Travel distance, e-chain®

- 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	minimum 5 x d
		flexible	minimum 4 x d
		fixed	minimum 3 x d
	Temperature	e-chain® linear	+5°C up to +70°C
		flexible	-5°C up to +70°C (following DIN EN 60811-504)
		fixed	-15°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	10m/s
	a max.	gliding	5m/s
	Travel distance	Short, very fast applications with small radii and restricted installation space, Class 1	

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	Foil taping 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)

Electrical information

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

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2

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36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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Class 7.1.2.1

 Flame-retardant

 Silicone-free

 UL verified

 UL/CSA AWM

 NFPA

 EAC

 REACH

 Lead-free

 Cleanroom

 CE

 UKCA

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame

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

Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

See data sheet for details ► www.igus.eu/CFSOFT2

Following NFPA 79-2018, chapter 12.9

Certificate No. RU C-DE.ME77.B.00300/19

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

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

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

Following 2014/35/EU

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

Guaranteed service life (details see page 28-29)

Double strokes*	10 million	15 million	20 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	6.8	7.5	8.5
+15/+60	5	6	7
+60/+70	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications and especially small radii down to 5 x 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

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
CFSOFT2.07.04 ¹¹⁾	(4G0.75)C	8.0	47	97

¹¹⁾ 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



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



Example image

Control cable | iguPUR | chainflex® CF890

36 5 million
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Flame-retardant

Dynamic information

	Bend radius	e-chain® linear	minimum 12.5 x d
		flexible	minimum 10 x d
		fixed	minimum 7 x d
	Temperature	e-chain® linear	-20°C up to +80°C
		flexible	-40°C up to +80°C (following DIN EN 60811-504)
		fixed	-50°C up to +80°C (following DIN EN 50305)
	v max.	unsupported	3m/s
	a max.		20m/s²
	Travel distance		Unsupported travels up to 10 m, Class 1

Cable structure

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

Electrical information

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

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.3.1

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, 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)
	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 data sheet for details ► www.igus.eu/CF890
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

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

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

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 sun radiation
- Machining units/machine tools, low temperature applications

Guarantee
igus chainflex
36

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

CE

UL US

REACH

RoHS

EAC

CE

UKCA

UL

CE

UKCA

UL

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Example image

igus® chainflex® CF890

igus® chainflex® CF890

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	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
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	12G2.5	15.0	327	408
CF890.25.25	25G2.5	21.5	638	786

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

EPLAN download, configurators ► www.igus.eu/CF890

Order example: **CF890.05.02** - to your desired length (0.5m steps)
CF890 chainflex® series .05 Code nominal cross section .02 Number of cores

Order online ► www.igus.eu/CF890

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



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



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



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Control cable | iguPUR | chainflex® CF891

36

5 million

Double strokes guaranteed

12.5 x d

Bend radius, e-chain®

10m

Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant

Dynamic information

	Bend radius	e-chain® linear	minimum 12.5 x d
		flexible	minimum 10 x d
		fixed	minimum 7 x d
	Temperature	e-chain® linear	-20°C up to +80°C
		flexible	-40°C up to +80°C (following DIN EN 60811-504)
		fixed	-50°C up to +80°C (following DIN EN 50305)
	v max.	unsupported	3m/s
	a max.		20m/s²
	Travel distance		Unsupported travels up to 10 m, Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	Cores wound with an optimised pitch length.
	Core identification	Black cores with white numbers, one green-yellow core.
	Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
	Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

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

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.3.1

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, 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)
	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 data sheet for details ► www.igus.eu/CF891
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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
	UK CA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

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

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

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 sun radiation
- Machining units/machine tools, low temperature applications

Guarantee
igus chainflex

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



Guarantee
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up to 36 months guarantee

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



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36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF891.05.02	(2x0.5)C	6.0	18	37
CF891.05.03	(3G0.5)C	6.0	28	45
CF891.05.05	(5G0.5)C	7.0	41	62
CF891.05.12	(12G0.5)C	9.0	91	122
CF891.05.18	(18G0.5)C	11.0	136	174
CF891.05.25	(25G0.5)C	13.0	210	234
CF891.07.02	(2x0.75)C	6.5	30	48
CF891.07.03	(3G0.75)C	7.0	37	63
CF891.07.04	(4G0.75)C	7.5	46	68
CF891.07.05	(5G0.75)C	8.0	61	85
CF891.07.07	(7G0.75)C	9.0	83	109
CF891.07.12	(12G0.75)C	10.5	124	166
CF891.07.18	(18G0.75)C	12.0	183	232
CF891.07.25 ¹¹⁾	(25G0.75)C	14.5	222	299
CF891.10.02	(2x1.0)C	6.5	30	50
CF891.10.03	(3G1.0)C	7.0	46	71
CF891.10.04	(4G1.0)C	7.5	63	98
CF891.10.05	(5G1.0)C	8.0	76	105
CF891.10.07	(7G1.0)C	9.5	100	126
CF891.10.12	(12G1.0)C	11.5	167	224
CF891.10.18	(18G1.0)C	13.0	213	276
CF891.10.25 ¹¹⁾	(25G1.0)C	16.0	291	382
CF891.15.02	(2x1.5)C	7.5	60	69
CF891.15.03	(3G1.5)C	7.5	63	85
CF891.15.04	(4G1.5)C	8.5	90	108
CF891.15.05	(5G1.5)C	9.0	94	129
CF891.15.07	(7G1.5)C	11.0	153	177
CF891.15.12	(12G1.5)C	13.0	212	276
CF891.15.25	(25G1.5)C	18.5	425	560
CF891.25.04	(4G2.5)C	10.0	141	157
CF891.25.05	(5G2.5)C	11.0	149	192
CF891.25.07	(7G2.5)C	13.0	204	255

¹¹⁾ 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

Order example: **CF891.05.02** - to your desired length (0.5m steps)
CF891 chainflex® series .05 Code nominal cross section .02 Number of cores

Order online ► www.igus.eu/CF891

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



chainflex® CF891 in an adjustment device for a process crane

EPLAN download, configurators ► www.igus.eu/CF891

Control cable | PUR | chainflex® CF77.UL.D

36

10 million

Double strokes guaranteed

6.8 x d

Bend radius, e-chain®

100m

Travel distance, e-chain®

- For heavy duty applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

	Bend radius	e-chain® linear	minimum 6.8 x d
		flexible	minimum 5 x d
		fixed	minimum 4 x d
	Temperature	e-chain® linear	-25°C up to +80°C
		flexible	-40°C up to +80°C (following DIN EN 60811-504)
		fixed	-50°C up to +80°C (following DIN EN 50305)
	v max.	unsupported	10m/s
		gliding	5m/s
	a max.		80m/s²
	Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	
	Torsion	Torsion ±180°, with 1m cable length, Class 3 (except for 5-core types ≥ 4.0mm² ► Product range table)	

Cable structure

	Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
	Core identification	Cores < 0.5mm²: Colour code in accordance with DIN 47100. Cores ≥ 0.5mm²: Black cores with white numbers, one green-yellow core. CF77.UL.02.03.INI: brown, blue, black CF77.UL.03.04.INI: brown, blue, black, white CF77.UL.03.05.INI: brown, blue, black, white, green-yellow
	Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Window-grey (similar to RAL 7040) Variants ► Product range table

Electrical information

	Nominal voltage	300/500V (following DIN VDE 0298-3) Number of cores < 12: Cores < 0.5mm²: 300V (following UL) Cores ≥ 0.5mm²: 1000V (following UL) Number of cores ≥ 12: 1000V (following UL)
	Testing voltage	2000V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Offshore	MUD-resistant following NEK 606 - status 2009
	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)
	Halogen-free	Following DIN EN 60754
	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 data sheet for details ► www.igus.eu/CF77.UL.D
	NFPA	Following NFPA 79-2018, chapter 12.9
	DNV	Type Approval Certificate TAE00003X1
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
	DESINA	According to VDW, DESINA standardisation
	CE	Following 2014/35/EU
	UK CA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	8.5	10	9.5	11	10.5	12
-15/+70	6.8	7.5	7.5	8.5	8.5	9.5
+70/+80	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector



Example image



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Control cable | PUR | chainflex® CF77.UL.D

Class 5.5.2.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.02.03.INI ¹²⁾	3x0.25	5.0	9	29
CF77.UL.02.04.D	4x0.25	5.5	11	35
CF77.UL.02.05.D	5x0.25	6.0	13	39
CF77.UL.02.07.D	7x0.25	6.5	18	51
CF77.UL.02.12.D	12x0.25	9.0	32	78
CF77.UL.02.18.D	18x0.25	10.5	47	127
CF77.UL.02.25.D	25x0.25	11.5	63	155
CF77.UL.03.04.INI ¹²⁾	4x0.34	6.0	14	37
CF77.UL.03.05.INI ¹²⁾	5x0.34	6.0	18	36
CF77.UL.03.05.INI.D	5x0.34	6.0	18	36
CF77.UL.05.04.D	4G0.5	6.0	21	46
CF77.UL.05.05.D	5G0.5	6.5	26	53
CF77.UL.05.07.D	7G0.5	7.5	39	78
CF77.UL.05.12.D	12G0.5	10.0	63	130
CF77.UL.05.18.D	18G0.5	12.0	94	184
CF77.UL.05.25.D	25G0.5	14.0	129	243
CF77.UL.05.30.D	30G0.5	15.0	155	315
CF77.UL.07.03.D	3G0.75	6.5	23	52
CF77.UL.07.04.D	4G0.75	7.0	31	59
CF77.UL.07.05.D	5G0.75	7.5	38	71
CF77.UL.07.07.D	7G0.75	8.5	54	100
CF77.UL.07.12.D	12G0.75	12.0	91	180
CF77.UL.07.18.D	18G0.75	13.5	134	239
CF77.UL.07.20.D	20G0.75	14.5	149	269
CF77.UL.07.25.D	25G0.75	16.0	186	336
CF77.UL.07.36.D	36G0.75	19.0	279	506
CF77.UL.07.42.D	42G0.75	21.0	341	580
CF77.UL.10.02.D	2x1.0	6.5	21	51
CF77.UL.10.03.D	3G1.0	6.5	31	58
CF77.UL.10.04.D	4G1.0	7.0	41	73
CF77.UL.10.05.D	5G1.0	8.0	50	90
CF77.UL.10.07.D	7G1.0	9.0	71	120
CF77.UL.10.12.D	12G1.0	12.5	120	220
CF77.UL.10.18.D	18G1.0	15.0	179	314
CF77.UL.10.25.D	25G1.0	17.5	248	431
CF77.UL.10.42.D	42G1.0	22.5	433	699

¹²⁾ Colour outer jacket: Colza yellow (similar to RAL 1021)

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.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.15.03.D	3G1.5	7.0	46	71
CF77.UL.15.04.D	4G1.5	7.5	61	88
CF77.UL.15.05.D	5G1.5	8.0	75	105
CF77.UL.15.07.D ¹⁷⁾	7G1.5	9.5	105	152
CF77.UL.15.12.D	12G1.5	13.0	179	297
CF77.UL.15.18.D	18G1.5	17.0	268	405
CF77.UL.15.25.D	25G1.5	19.5	297	564
CF77.UL.15.36.D	36G1.5	23.5	551	848
CF77.UL.25.03.D	3G2.5	8.5	75	132
CF77.UL.25.04.D	4G2.5	9.5	95	167
CF77.UL.25.05.D	5G2.5	10.0	124	196
CF77.UL.25.07.D ¹⁷⁾	7G2.5	12.0	174	270
CF77.UL.25.12.D	12G2.5	17.0	297	479
CF77.UL.40.04.D ⁹⁰⁾	4G4.0	11.5	165	245
CF77.UL.40.05.D ⁹⁰⁾	5G4.0	12.0	198	284
CF77.UL.60.05.D ⁹⁰⁾	5G6.0	13.5	297	412

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
⁹⁰⁾ Torsion ± 90°

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



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



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



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



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Control cable | PUR | chainflex® CF78.UL

36

10 million

Double strokes guaranteed

6.8 x d

Bend radius, e-chain®

100m

Travel distance, e-chain®

- For heavy duty applications
 - PUR outer jacket
 - Shielded
 - Oil-resistant and coolant-resistant
- Flame-retardant
 - PVC and halogen-free
 - Notch-resistant
 - Hydrolysis and microbe-resistant

Dynamic information

	Bend radius	e-chain® linear flexible	minimum 6.8 x d minimum 5 x d
		fixed	minimum 4 x d
	Temperature	e-chain® linear flexible	-25°C up to +80°C -40°C up to +80°C (following DIN EN 60811-504)
		fixed	-50°C up to +80°C (following DIN EN 50305)
	v max.	unsupported	10m/s
		gliding	5m/s
	a max.		80m/s²
	Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

	Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
	Core identification	Black cores with white numbers, one green-yellow core.
	Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
	Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
	Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Window-grey (similar to RAL 7040)
	CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ► www.igus.eu/CFRIP

Electrical information

	Nominal voltage	300/500V (following DIN VDE 0298-3) Number of cores < 12: Cores < 0.5mm²: 300V (following UL) Cores ≥ 0.5mm²: 1000V (following UL) Number of cores ≥ 12: 1000V (following UL)
	Testing voltage	2000V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.3.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Offshore	MUD-resistant following NEK 606 - status 2009
	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)
	Halogen-free	Following DIN EN 60754
	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 data sheet for details ► www.igus.eu/CF78.UL
	NFPA	Following NFPA 79-2018, chapter 12.9
	DNV	Type Approval Certificate TAE00003X1
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
	CE	Following 2014/35/EU
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	8.5	10	9.5	11	10.5	12
-15/+70	6.8	7.5	7.5	8.5	8.5	9.5
+70/+80	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Guarantee
igus chainflex

36

igus 36-month
chainflex cable
guarantee and
service life
calculator based
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NFPA

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UPA

DNV

EAC

REACH

RoHS

clean-room

UL

US

CE

UK

CA

Guarantee
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up to 36 months guarantee

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guarantee and
service life
calculator based
on 2 billion test
cycles per year

UL

US

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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

Control cable | PUR | chainflex® CF78.UL

Strip cables 50% faster with CFRIP® tear strip

igus® chainflex® CF78.UL

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF78.UL.05.04	(4G0.5)C	8.0	38	77
CF78.UL.05.05	(5G0.5)C	8.0	45	91
CF78.UL.05.07	(7G0.5)C	9.5	59	115
CF78.UL.05.09	(9G0.5)C	11.0	77	143
CF78.UL.05.12	(12G0.5)C	12.5	92	202
CF78.UL.05.18	(18G0.5)C	14.5	146	248
CF78.UL.05.25	(25G0.5)C	16.0	168	354
CF78.UL.07.03	(3G0.75)C	8.0	42	79
CF78.UL.07.04	(4G0.75)C	8.5	49	96
CF78.UL.07.05	(5G0.75)C	9.5	61	112
CF78.UL.07.07	(7G0.75)C	10.5	83	151
CF78.UL.07.12	(12G0.75)C	13.5	136	249
CF78.UL.07.18	(18G0.75)C	15.5	194	354
CF78.UL.07.36	(36G0.75)C	22.0	390	702
CF78.UL.10.03	(3G1.0)C	8.5	50	96
CF78.UL.10.04	(4G1.0)C	9.0	62	112
CF78.UL.10.05	(5G1.0)C	9.5	74	129
CF78.UL.10.07	(7G1.0)C	11.0	104	176
CF78.UL.10.12	(12G1.0)C	14.5	166	300
CF78.UL.10.18	(18G1.0)C	17.0	240	407
CF78.UL.10.25	(25G1.0)C	20.0	325	545
CF78.UL.15.03	(3G1.5)C	9.5	68	122
CF78.UL.15.04	(4G1.5)C	10.0	86	145
CF78.UL.15.05	(5G1.5)C	9.5	108	159
CF78.UL.15.07 ¹⁷⁾	(7G1.5)C	11.5	144	217
CF78.UL.15.12	(12G1.5)C	16.0	233	387
CF78.UL.15.18	(18G1.5)C	19.0	346	541
CF78.UL.15.25	(25G1.5)C	22.5	464	724
CF78.UL.15.36	(36G1.5)C	26.5	663	1095
CF78.UL.15.42	(42G1.5)C	29.5	820	1296
CF78.UL.25.03	(3G2.5)C	10.0	106	174
CF78.UL.25.04	(4G2.5)C	11.5	140	203
CF78.UL.25.05	(5G2.5)C	12.0	166	235
CF78.UL.25.07 ¹⁷⁾	(7G2.5)C	14.5	230	334
CF78.UL.25.12	(12G2.5)C	19.0	382	585
CF78.UL.40.04	(4G4.0)C	13.0	203	328

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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

EPLAN download, configurators ► www.igus.eu/CF78.UL

Class 5.5.3.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Order example: **CF78.UL.05.04** - to your desired length (0.5m steps)
CF78.UL chainflex® series **.05** Code nominal cross section **.04** Number of cores



Order online ► www.igus.eu/CF78.UL



Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



cost down...



...life up

Reduce cost, improve technology, now!

Do the chainflex® price check ...
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... for example: **reduce cost with CF6 ...**

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cycles per year



Guarantee
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up to 36 months guarantee

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



Control cable | PUR | chainflex® CF2

36

10 million

Double strokes guaranteed

5 x d

Bend radius, e-chain®

100m

Travel distance, e-chain®

- For extremely heavy duty applications
 - PUR outer jacket
 - Shielded
 - Oil-resistant and coolant-resistant
- Flame-retardant
 - Notch-resistant
 - Hydrolysis and microbe-resistant

Dynamic information

	Bend radius	e-chain® linear	minimum 5 x d
		flexible	minimum 4 x d
		fixed	minimum 3 x d
	Temperature	e-chain® linear	-20°C up to +80°C
		flexible	-40°C up to +80°C (following DIN EN 60811-504)
		fixed	-50°C up to +80°C (following DIN EN 50305)
	v max.	unsupported	10m/s
	a max.	gliding	5m/s
	Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).	
	Core insulation	Mechanically high-quality TPE mixture.	
	Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.	
		Colour code in accordance with DIN 47100.	
	Core identification	Colour code in accordance with DIN 47100.	
	Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.	
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%	
	Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Anthracite grey (similar to RAL 7016)	

Electrical information

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

EPLAN download, configurators ► www.igus.eu/CF2

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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

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Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.5.3.1

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Offshore	MUD-resistant following NEK 606 - status 2009
	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)
	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 data sheet for details ► www.igus.eu/CF2
	NFPA	Following NFPA 79-2018, chapter 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1 Following 2014/35/EU
	CE	
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

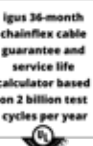
Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	6.8	7.5	8.5
-10/+70	5	6.8	7.5
+70/+80	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes, refrigeration sector



igus® chainflex® CF2

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF2.01.04	(4x0.14)C	6.5	18	49
CF2.01.08	(8x0.14)C	7.5	31	66
CF2.01.12	(12x0.14)C	9.5	51	102
CF2.01.18	(18x0.14)C	10,5	56	135
CF2.01.24 ³⁾	(24x0.14)C	11.5	68	162
CF2.01.36	(36x0.14)C	14.5	92	240
CF2.02.04	(4x0.25)C	7.0	25	59
CF2.02.08	(8x0.25)C	8.0	43	84
CF2.02.18	(18x0.25)C	12.0	100	173
CF2.02.24 ^{3) 11)}	(24x0.25)C	13.5	124	305
CF2.02.48	(48x0.25)C	17.5	191	387

The chainflex® types marked with a ³⁾ refer to cables that are based on a bundling of 4 cores each. Due to their excellent electrical properties (starquad with especially minimum crosstalk), these cables can virtually be used in all cases in which otherwise twisted-pair cables are required.

¹¹⁾ 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

 **Order example: CF2.01.04 - to your desired length (0.5m steps)**
CF2 chainflex® series .01 Code nominal cross section .04 Number of cores

 Order online ► www.igus.eu/CF2

 Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



chainflex® CF2 cables are resistant to oil and coolants. e-chain®: E4/00 system.

cost down...



...life up

Reduce cost, improve technology, now!

Do the chainflex® price check ...

www.igus.eu/cf-price-check

... for example: reduce cost with CF240.PUR ...

EPLAN download, configurators ► www.igus.eu/CF2

110 36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

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

111



Control cable | TPE | chainflex® CF9



12.5 million
Double strokes guaranteed



5 x d
Bend radius, e-chain®



400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Now available
with UL approval
& 25% longer
service life

Dynamic information



Bend radius	e-chain® linear	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d



Temperature	e-chain® linear	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)



v max.	unsupported	10m/s
---------------	--------------------	-------



a max.	gliding	6m/s
---------------	----------------	------



Travel distance	Unsupported travels and up to 400m for gliding applications, Class 6
------------------------	--



Torsion	Torsion ±90°, with 1m cable length, Class 2
----------------	---

Cable structure



Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
------------------	--



Core insulation	Mechanically high-quality TPE mixture.
------------------------	--



Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
-----------------------	---



Core identification	Cores < 0.75mm²: Colour code in accordance with DIN 47100. Cores ≥ 0.75mm²: Black cores with white numbers, one green-yellow core. CF9.02.03.INI: brown, blue, black CF9.03.04.INI: brown, blue, black, white CF9.03.05.INI: brown, blue, black, white, green-yellow CF9.03.16.07.03.INI: 0.34mm²: violet/red/grey/red-blue, green/grey-pink/white-green/white-yellow, white-grey/black/yellow-brown/brown-green, white/yellow/pink/grey-brown 0.75mm²: blue/green-yellow/brown
----------------------------	---



Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)
---------------------	--



CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ► www.igus.eu/CFRIP
---------------	--

EPLAN download, configurators ► www.igus.eu/CF9

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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Class 7.6.4.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Electrical information



Nominal voltage	300/500V (following DIN VDE 0298-3) Cores < 0.5mm²: 300V (following UL) Cores ≥ 0.5mm²: 1000V (following UL)
------------------------	---



Testing voltage	2000V (following DIN EN 50395)
------------------------	--------------------------------

Properties and approvals



UV resistance	High
----------------------	------



Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
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Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
----------------------	--



Halogen-free	Following DIN EN 60754
---------------------	------------------------



UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
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UL AWM	See data sheet for details ► www.igus.eu/CF9 (from production date 01/2022)
---------------	---



EAC	Certificate No. RU C-DE.ME77.B.00300/19
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REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
--------------	--



Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
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Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
------------------	---



CE	Following 2014/35/EU
-----------	----------------------



UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)
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Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications



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Control cable | TPE | chainflex® CF9

Strip cables 50% faster with CFRIP® tear strip

igus® chainflex® CF9

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
New CF9.02.02	2x0.25	4.5	6	18
New CF9.02.03.INI	3x0.25	4.5	9	22
New CF9.02.06	6x0.25	5.5	16	36
New CF9.02.07	7x0.25	6.5	18	42
New CF9.02.08	8x0.25	6.5	21	48
New CF9.02.12	12x0.25	8.0	31	71
New CF9.02.18	18x0.25	9.0	46	100
New CF9.02.20	20x0.25	9.5	50	108
New CF9.02.25	25x0.25	10,5	63	137
New CF9.03.04.INI	4x0.34	5.0	15	31
New CF9.03.05.INI	5x0.34	5.5	18	37
New CF9.03.06	6x0.34	6.0	21	42
New CF9.03.08	8x0.34	7.0	29	56
New CF9.03.16.07.03.INI	16x0.34+3x0.75	11.0	77	152
New CF9.05.02	2x0.5	5.0	11	26
New CF9.05.03	3x0.5	5.0	16	32
New CF9.05.04	4x0.5	5.5	21	39
New CF9.05.05	5x0.5	6.0	25	47
New CF9.05.07	7x0.5	7.0	36	65
New CF9.05.12	12x0.5	10.0	61	115
New CF9.05.18	18x0.5	11.5	91	169
New CF9.05.25	25x0.5	13.0	124	223
New CF9.05.36	36x0.5	15.5	179	316
New CF9.07.04	4G0.75	6.0	31	55
New CF9.07.05	5G0.75	6.5	38	65
New CF9.07.07	7G0.75	8.0	54	90
New CF9.07.12	12G0.75	10.5	91	162
New CF9.07.20	20G0.75	13.0	149	253
New CF9.07.25	25G0.75	14.5	186	315
New CF9.10.03	3G1.0	6.0	31	52
New CF9.10.04	4G1.0	6.5	41	67
New CF9.10.05	5G1.0	7.5	50	81
New CF9.10.12	12G1.0	11.5	120	203
New CF9.10.18	18G1.0	14.0	179	297
New CF9.10.25	25G1.0	16.5	248	420

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

Class 7.6.4.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Guarantee
igus chainflex
36

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

CFRIP
igus chainflex

UL
US

UL
UL

nec
NFPA

NFPA

CUPA

DNV

DNV

EAC

REACH

RoHS

clean-room

CE

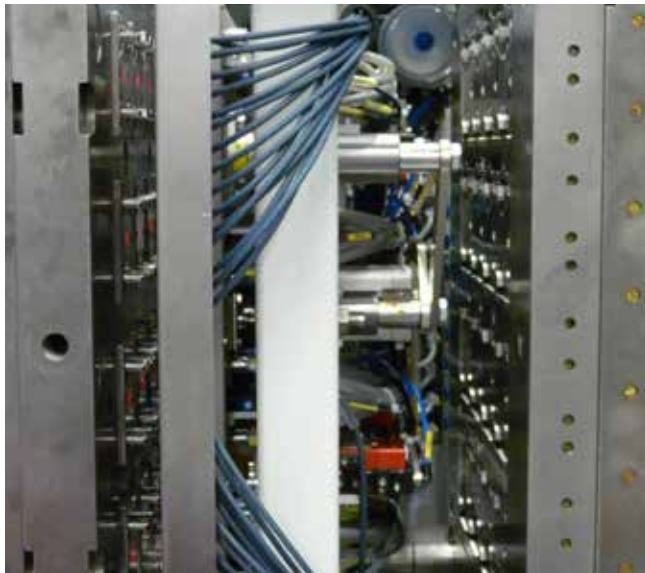
UK
CA

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
New CF9.15.02	2x1.5	6.5	31	56
New CF9.15.04	4G1.5	7.5	61	92
New CF9.15.05	5G1.5	8.0	76	110
New CF9.15.07 ¹⁷⁾	7G1.5	9.5	107	157
New CF9.15.12	12G1.5	13.5	179	284
New CF9.15.18	18G1.5	16.5	268	422
New CF9.15.25	25G1.5	20.0	371	600
New CF9.15.36	36G1.5	23.5	530	847
New CF9.25.04	4G2.5	8.5	100	151
New CF9.25.05	5G2.5	10.0	124	186
New CF9.25.07 ¹⁷⁾	7G2.5	12.0	176	269
New CF9.25.12	12G2.5	17.5	297	492
New CF9.25.16	16G2.5	19.5	396	654
New CF9.25.18 ⁷⁾	18G2.5	22.5	445	766
New CF9.25.25	25G2.5	23.5	612	980
New CF9.40.04	4G4.0	10,5	159	227
New CF9.60.04	4G6.0	12.5	238	317
New CF9.60.05	5G6.0	13.5	297	389
New CF9.100.04	4G10	16.5	396	549
New CF9.160.04	4G16	20.5	628	873

⁷⁾ Nominal voltage 600/1000V

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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



chainflex® CF9 INI cables in a high-performance system for plastics processing with cycle times in seconds. e-chain® E6 series. (Source: Hekuma)



EPLAN download, configurators ► www.igus.eu/CF9

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

115

Control cable | TPE | chainflex® CF10

**12.5 million**
Double strokes guaranteed**5 x d**
Bend radius, e-chain®**400m**
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

**Now available
with UL approval
& 25% longer
service life**

Dynamic information

	Bend radius	e-chain® linear	minimum 5 x d
		flexible	minimum 4 x d
		fixed	minimum 3 x d
	Temperature	e-chain® linear	-35°C up to +100°C
		flexible	-50°C up to +100°C (following DIN EN 60811-504)
		fixed	-55°C up to +100°C (following DIN EN 50305)
	v max.	unsupported	10m/s
	a max.	gliding	6m/s
			100m/s²
	Travel distance	Unsupported travels and up to 400m for gliding applications, Class 6	

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
	Core identification	Cores < 0.75mm²: Colour code in accordance with DIN 47100. Cores ≥ 0.75mm²: Black cores with white numbers, one green-yellow core. CF9.03.05.INI: brown, blue, black, white, green-yellow
	Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
	Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)
	CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ► www.igus.eu/CFRIP

EPLAN download, configurators ► www.igus.eu/CF10

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

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Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.6.4.1

Electrical information

	Nominal voltage	300/500V (following DIN VDE 0298-3) Cores < 0.5mm²: 300V (following UL) Cores ≥ 0.5mm²: 1000V (following UL)
	Testing voltage	2000V (following DIN EN 50395)

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following DIN EN 60754
	UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
	UL AWM	See data sheet for details ► www.igus.eu/CF10 (from production date 01/2022)
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1 Following 2014/35/EU
	CE	
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

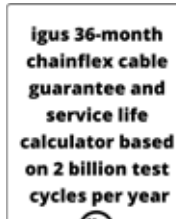
Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

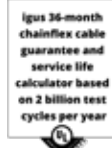
* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications



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Control cable | TPE | chainflex® CF10

Strip cables 50% faster with CFRIP® tear strip

igus® chainflex® CF10

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
New CF10.01.12	(12x0.14)C	8.0	38	78
New CF10.01.18	(18x0.14)C	9.5	64	121
New CF10.02.04	(4x0.25)C	6.5	24	49
New CF10.02.08	(8x0.25)C	8.0	40	78
New CF10.02.12	(12x0.25)C	9.5	66	122
New CF10.02.25	(25x0.25)C	12.5	112	212
New CF10.03.05.INI	(5x0.34)C	7.0	34	63
New CF10.05.04	(4x0.5)C	7.0	37	67
New CF10.05.05	(5x0.5)C	7.5	43	76
New CF10.05.07	(7x0.5)C	8.5	57	99
New CF10.05.12	(12x0.5)C	11.5	106	185
New CF10.05.18	(18x0.5)C	13.5	144	251
New CF10.05.25	(25x0.5)C	15.0	186	318
New CF10.07.04	(4G0.75)C	7.5	48	83
New CF10.07.05	(5G0.75)C	8.0	58	95
New CF10.07.07	(7G0.75)C	9.5	89	140
New CF10.07.12	(12G0.75)C	12.0	136	230
New CF10.07.20	(20G0.75)C	15.0	212	345
New CF10.07.25	(25G0.75)C	16.0	253	420
New CF10.10.02	(2x1.0)C	7.5	37	70
New CF10.10.03	(3G1.0)C	7.5	48	80
New CF10.10.04	(4G1.0)C	8.0	61	99
New CF10.10.05	(5G1.0)C	8.5	70	116
New CF10.10.07	(7G1.0)C	10.0	109	170
New CF10.10.12	(12G1.0)C	13.5	175	286
New CF10.10.18	(18G1.0)C	15.5	246	391
New CF10.10.25	(25G1.0)C	18.0	322	520
New CF10.15.04	(4G1.5)C	9.0	94	142
New CF10.15.05	(5G1.5)C	10.0	112	166
New CF10.15.07 ¹⁷⁾	(7G1.5)C	11.5	149	231
New CF10.15.12	(12G1.5)C	15.5	243	383
New CF10.15.18	(18G1.5)C	19.0	372	579
New CF10.25.04	(4G2.5)C	11.0	140	220
New CF10.25.07 ¹⁷⁾	(7G2.5)C	13.5	228	347
New CF10.25.12	(12G2.5)C	19.5	375	619
New CF10.40.04	(4G4.0)C	12.5	208	305
New CF10.40.05	(5G4.0)C	13.5	254	370

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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

EPLAN download, configurators ► www.igus.eu/CF10

Class 7.6.4.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Order example: **CF10.01.12** - to your desired length (0.5m steps)
CF10 chainflex® series .01 Code nominal cross section .12 Number of cores



Order online ► www.igus.eu/CF10



Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



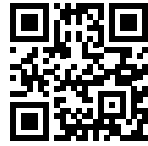
chainflex CF10 control cable in storage and retrieval units e-chain®: E2 system



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



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

118 36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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Control cable | TPE | chainflex® CF9.UL

36 10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- PVC-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Up to 18%
smaller outside
diameter

Dynamic information

	Bend radius	e-chain® linear	minimum 5 x d
		flexible	minimum 4 x d
		fixed	minimum 3 x d
	Temperature	e-chain® linear	-35°C up to +100°C
		flexible	-45°C up to +100°C (following DIN EN 60811-504)
		fixed	-50°C up to +100°C (following DIN EN 50305)
	v max.	unsupported	10m/s
	a max.	gliding	6m/s
			100m/s²
	Travel distance	Unsupported travels and up to 400m for gliding applications, Class 6	
	Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).	
	Core insulation	Mechanically high-quality TPE mixture.	
	Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.	
	Core identification	Cores < 0.75mm²: Colour code in accordance with DIN 47100. Cores ≥ 0.75mm²: Black cores with white numbers, one green-yellow core. CF9.UL.02.03.INI: brown, blue, black CF9.UL.03.04.INI: brown, blue, black, white CF9.UL.03.05.INI: braun, blau, schwarz, weiß, grüngelb	
	Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Slate grey (similar to RAL 7015)	
	CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ► www.igus.eu/CFRIP	

EPLAN download, configurators ► www.igus.eu/CF9.UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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Class 6.6.4.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Electrical information

	Nominal voltage	300/500V (following DIN VDE 0298-3) Cores < 0.5mm²: 300V (following UL) Cores ≥ 0.5mm²: 1000V (following UL)
	Testing voltage	2000V (following DIN EN 50395)

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
	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)
	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 data sheet for details ► www.igus.eu/CF9.UL
	NFPA	Following NFPA 79-2018, chapter 12.9
	DNV	Type Approval Certificate TAE00003X2
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1 Following 2014/35/EU
	CE	
	UK CA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

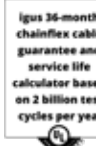
* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications



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



Control cable | TPE | chainflex® CF9.UL

Strip cables 50% faster with CFRIP® tear strip

igus® chainflex® CF9.UL

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.UL.02.02	2x0.25	5.0	5	24
CF9.UL.02.03.INI	3x0.25	5.0	8	28
CF9.UL.02.04	4x0.25	5.5	10	33
CF9.UL.02.06	6x0.25	6.0	15	42
CF9.UL.02.08	8x0.25	7.0	20	58
CF9.UL.02.12	12x0.25	7.5	30	82
CF9.UL.03.04.INI	4x0.34	5.5	14	38
CF9.UL.03.05.INI	5x0.34	6.0	17	44
CF9.UL.03.06	6x0.34	6.5	21	52
CF9.UL.03.08	8x0.34	7.5	27	67
CF9.UL.05.02	2x0.5	5.5	10	35
CF9.UL.05.03	3x0.5	6.0	15	41
CF9.UL.05.04	4x0.5	6.0	20	50
CF9.UL.05.05	5x0.5	6.5	25	56
CF9.UL.05.07	7x0.5	7.5	35	78
CF9.UL.05.12	12x0.5	9.5	60	136
CF9.UL.05.18	18x0.5	12.0	90	200
CF9.UL.07.05	5G0.75	7.0	38	78
CF9.UL.07.07	7G0.75	8.5	53	104
CF9.UL.07.12	12G0.75	11.0	90	191
CF9.UL.07.25	25G0.75	15.0	186	366
CF9.UL.10.03	3G1.0	6.5	30	62
CF9.UL.10.04	4G1.0	7.0	40	79
CF9.UL.10.12	12G1.0	11.5	119	229
CF9.UL.10.18	18G1.0	14.5	178	332
CF9.UL.10.25	25G1.0	16.0	248	439
CF9.UL.15.04	4G1.5	8.0	60	102
CF9.UL.15.05	5G1.5	8.5	75	123
CF9.UL.15.07 ¹⁷⁾	7G1.5	10.0	104	167
CF9.UL.15.12	12G1.5	13.0	178	307
CF9.UL.15.18	18G1.5	16.0	267	448
CF9.UL.15.25	25G1.5	19.0	371	652

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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

Class 6.6.4.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.UL.25.04	4G2.5	9.0	100	165
CF9.UL.25.05	5G2.5	10.0	125	202
CF9.UL.25.07 ¹⁷⁾	7G2.5	12.0	174	282
CF9.UL.25.12	12G2.5	16.0	297	521
CF9.UL.25.18	18G2.5	20.0	445	769
CF9.UL.25.25	25G2.5	23.5	612	1045
CF9.UL.40.04	4G4.0	10,5	159	222

¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

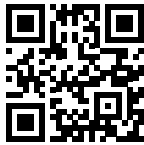
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core x = without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



igus® chainflex® cables in a drilling application.

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

123

Guarantee
igus chainflex
36

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



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



Control cable | TPE | chainflex® CF10.UL

36

10 million

Double strokes guaranteed

5 x d

Bend radius, e-chain®

400m

Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- PVC-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Up to 18%
smaller outside
diameter

Dynamic information

	Bend radius	e-chain® linear	minimum 5 x d
		flexible	minimum 4 x d
		fixed	minimum 3 x d
	Temperature	e-chain® linear	-35°C up to +100°C
		flexible	-45°C up to +100°C (following DIN EN 60811-504)
		fixed	-50°C up to +100°C (following DIN EN 50305)
	v max.	unsupported	10m/s
		gliding	6m/s
	a max.		100m/s²
	Travel distance		Unsupported travels and up to 400m for gliding applications, Class 6

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
	Core identification	Cores < 0.75mm²: Colour code in accordance with DIN 47100. Cores ≥ 0.75mm²: Black cores with white numbers, one green-yellow core.
	Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
	Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Slate grey (similar to RAL 7015)
	CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ► www.igus.eu/CFRIP

EPLAN download, configurators ► www.igus.eu/CF10.UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



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Class 6.6.4.1

Electrical information

	Nominal voltage	300/500V (following DIN VDE 0298-3) Cores < 0.5mm²: 300V (following UL) Cores ≥ 0.5mm²: 1000V (following UL)
	Testing voltage	2000V (following DIN EN 50395)

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
	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)
	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 data sheet for details ► www.igus.eu/CF10.UL
	NFPA	Following NFPA 79-2018, chapter 12.9
	DNV	Type Approval Certificate TAE00003X2
	EAC	Certificate No. RU C-DE.ME77.B.00300/19
	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 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1 Following 2014/35/EU
	CE	
	UK CA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications



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Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Control cable | TPE | chainflex® CF10.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.UL.02.04	(4x0.25)C	6.5	24	61
CF10.UL.02.08	(8x0.25)C	8.5	40	94
CF10.UL.02.12	(12x0.25)C	9.5	64	138
CF10.UL.02.25	(25x0.25)C	12.5	109	239
CF10.UL.05.04	(4x0.5)C	7.5	37	84
CF10.UL.05.05	(5x0.5)C	8.0	44	96
CF10.UL.05.12	(12x0.5)C	11.5	103	211
CF10.UL.05.25 ¹¹⁾	(25x0.5)C	15.5	186	377
CF10.UL.07.04	(4G0.75)C	8.0	49	102
CF10.UL.07.05	(5G0.75)C	8.5	58	119
CF10.UL.07.07	(7G0.75)C	10.0	89	172
CF10.UL.07.12	(12G0.75)C	12.5	135	274
CF10.UL.07.20 ¹¹⁾	(20G0.75)C	15.5	210	395
CF10.UL.07.25 ¹¹⁾	(25G0.75)C	17.0	255	492
CF10.UL.10.02	(2x1.0)C	7.5	38	88
CF10.UL.10.03	(3G1.0)C	8.0	48	99
CF10.UL.10.04	(4G1.0)C	8.5	61	118
CF10.UL.10.05	(5G1.0)C	9.0	72	137
CF10.UL.10.07	(7G1.0)C	11.0	110	204
CF10.UL.10.25 ¹¹⁾	(25G1.0)C	18.5	348	608
CF10.UL.15.04	(4G1.5)C	9.0	83	144
CF10.UL.15.05	(5G1.5)C	10.0	111	182
CF10.UL.15.07 ¹⁷⁾	(7G1.5)C	12.0	148	246
CF10.UL.15.12	(12G1.5)C	14.5	236	408
CF10.UL.15.18	(18G1.5)C	18.5	363	608
CF10.UL.25.04	(4G2.5)C	11.0	140	237
CF10.UL.25.07 ¹⁷⁾	(7G2.5)C	14.0	226	381
CF10.UL.25.12	(12G2.5)C	18.5	395	684
CF10.UL.40.04	(4G4.0)C	12.5	205	315

¹¹⁾ Phase-out model
¹⁷⁾ When using the cables with "7G1.5mm²" and "5G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
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

Class 6.6.4.1

Basic requirements
Travel distance
Oil resistance
Torsion

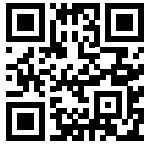
low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



The special cable structure of chainflex® CF10.UL guarantees quality – offered by igus® fully harnessed.

EPLAN download, configurators ► www.igus.eu/CF10.UL

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

127



Control cable | TPE | chainflex® CF98

36

40 million

Double strokes guaranteed

4 x d

Bend radius, e-chain®

100m

Travel distance, e-chain®

- For heaviest duty applications and especially small radii down to 4 x d
 - TPE outer jacket
 - Oil and bio-oil-resistant
- PVC and halogen-free
 - Low-temperature-flexible
 - Hydrolysis and microbe-resistant

Dynamic information

	Bend radius	e-chain® linear flexible	minimum 4 x d minimum 4 x d minimum 3 x d
	Temperature	e-chain® linear flexible fixed	-35°C up to +90°C -50°C up to +90°C (following DIN EN 60811-504) -55°C up to +90°C (following DIN EN 50305)
	v max.	unsupported gliding	10m/s 6m/s
	a max.		100m/s²
	Travel distance		Short, very fast applications with small radii and restricted installation space, Class 5
	Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

	Conductor	Conductor consisting of a highly flexible special alloy.
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	Cores wound in a layer with especially short pitch length.
	Core identification	Colour code in accordance with DIN 47100. CF98.02.03.INI: brown, blue, black CF98.03.04.INI: brown, blue, black, white
	Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

	Nominal voltage	300/300V
	Testing voltage	1500V

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following DIN EN 60754
	UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

Class 7.5.4.2

EAC

REACH

Lead-free

Cleanroom

CE

UKCA

Certificate No. RU C-DE.ME77.B.00300/19

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

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

According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1

Following 2014/35/EU

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

Guaranteed service life (details see page 28-29)

Double strokes*	20 million	30 million	40 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	5	6	7
-25/+80	4	5	6
+80/+90	5	6	7

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications and especially small radii down to 4 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF98.01.02	2x0.14	4.5	5	18
CF98.01.03	3x0.14	4.5	6	20
CF98.01.04	4x0.14	5.0	8	25
CF98.01.08	8x0.14	6.5	15	43
CF98.02.03.INI	3x0.25	5.0	11	29
CF98.02.04	4x0.25	5.5	15	36
CF98.02.08 ¹¹⁾	8x0.25	7.5	30	67
CF98.03.04.INI	4x0.34	6.0	15	39
CF98.05.04	4x0.5	6.0	33	53

¹¹⁾ 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



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



Example image
igus® chainflex® CF98

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Control cable | TPE | chainflex® CF99

36

40 million

Double strokes guaranteed

4 x d

Bend radius, e-chain®

100m

Travel distance, e-chain®

- For heaviest duty applications and especially small radii down to 4 x d
 - TPE outer jacket
 - Shielded
- Oil and bio-oil-resistant
 - PVC and halogen-free
 - Low-temperature-flexible
 - Hydrolysis and microbe-resistant

Dynamic information

	Bend radius	e-chain® linear	minimum 4 x d
		flexible	minimum 4 x d
		fixed	minimum 3 x d
	Temperature	e-chain® linear	-35°C up to +90°C
		flexible	-50°C up to +90°C (following DIN EN 60811-504)
		fixed	-55°C up to +90°C (following DIN EN 50305)
	v max.	unsupported	10m/s
	a max.	gliding	6m/s
	Travel distance	Short, very fast applications with small radii and restricted installation space, Class 5	

Cable structure

	Conductor	Conductor consisting of a highly flexible special alloy.
	Core insulation	Mechanically high-quality TPE mixture.
	Core structure	Cores wound in a layer with especially short pitch length.
	Core identification	Colour code in accordance with DIN 47100.
	Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
	Overall shield	Extremely bending resistant braiding made of alloy wires. Coverage linear approx. 70%, optical approx. 90%
	Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

	Nominal voltage	300/300V
	Testing voltage	1500V

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

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EU2022

Class 7.5.4.1



Halogen-free



UL verified



EAC



REACH



Lead-free



Cleanroom



CE



UKCA

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Following DIN EN 60754

Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
Certificate No. RU C-DE.ME77.B.00300/19

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

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

According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
Following 2014/35/EU

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

Guaranteed service life (details see page 28-29)

Double strokes*	20 million	30 million	40 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	5	6	7
-25/+80	4	5	6
+80/+90	5	6	7

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications and especially small radii down to 4 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF99.01.02	(2x0.14)C	6.0	12	37
CF99.01.04	(4x0.14)C	6.5	17	47
CF99.01.08 ¹¹⁾	(8x0.14)C	8.0	29	76
CF99.02.04	(4x0.25)C	7.0	24	60
CF99.03.08	(8x0.34)C	9.5	45	108

¹¹⁾ 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



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cfcase



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



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