

Control cables



chainflex® types ▶▶

chainflex® cable	Jacket	Shield	Bending radius min., 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. [m/s²]	Page
Control cables											
Exclusive! chainflex® guarantee – guaranteed lifetime										▶ Selection table page 64	
CF880	PVC		12.5	+5/ +70	UL US, ENEC, EAC, CE			3	20	66	
CF881	PVC	✓	12.5	+5/ +70	UL US, ENEC, EAC, CE			3	20	70	
CF130.UL	PVC		7.5	+5/ +70	UL US, ENEC, EAC, CE		✓	3	2	20	74
CF140.UL	PVC	✓	7.5	+5/ +70	UL US, ENEC, EAC, CE			3	2	20	78
CF5	PVC		6.8	+5/ +70	UL US, ENEC, EAC, CE	✓	✓	10	5	80	82
CF6	PVC	✓	6.8	+5/ +70	UL US, ENEC, EAC, CE	✓		10	5	80	86
CF890	iguPUR		12.5	-20/ +80	UL US, ENEC, EAC, CE	✓		3	20	90	
CF891	iguPUR	✓	12.5	-20/ +80	UL US, ENEC, EAC, CE	✓		3	20	94	
CF170.D	PUR		7.5	-25/ +80	UL US, ENEC, EAC, CE	✓		3	2	20	98
CF180	PUR	✓	7.5	-25/ +80	UL US, ENEC, EAC, CE	✓		3	2	20	102
CF77.UL.D	PUR		6.8	-25/ +80	UL US, ENEC, EAC, CE	✓	✓	10	5	80	104
CF78.UL	PUR	✓	6.8	-25/ +80	UL US, ENEC, EAC, CE	✓		10	5	80	108
CF2	PUR	✓	5	-20/ +80	UL US, ENEC, EAC, CE	✓		10	5	80	112
CF9	TPE		5	-35/ +100	UL US, ENEC, EAC, CE	✓	✓	10	6	100	116
CF10	TPE	✓	5	-35/ +100	UL US, ENEC, EAC, CE	✓		10	6	100	120
CF9.UL	TPE		5	-35/ +100	UL US, ENEC, EAC, CE	✓	✓	10	6	100	124
CF10.UL	TPE	✓	5	-35/ +100	UL US, ENEC, EAC, CE	✓		10	6	100	128
CF98	TPE		4	-35/ +90	UL US, ENEC, EAC, CE	✓	✓	10	6	100	132
CF99	TPE	✓	4	-35/ +90	UL US, ENEC, EAC, CE	✓		10	6	100	134



chainflex® cable	Temperature, from/to [°C]	v max. [m/s]		a max. [m/s²]	Travel distance [m]	Bending radius min. [factor x d]		Bending radius min. [factor x d]		Bending radius min. [factor x d]		Page	
		unsupported	gliding			< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m		
Control cables													
							5 million (1 million) double strokes *		7.5 million (3 million) double strokes *		10 million (5 million) double strokes *		
CF880 chainflex® M	+5 / +15 +15 / +60 +60 / +70	3		20	≤ 10		15 12.5 15	- - -	16 13.5 16	- - -	17 14.5 17	- - -	66
CF881 chainflex® M	+5 / +15 +15 / +60 +70 / +70	3		20	≤ 10		15 12.5 15	- - -	16 13.5 16	- - -	17 14.5 17	- - -	70
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	74
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	78
CF5	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 50		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	82
CF6	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 50		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	86
CF890 chainflex® M	-20 / -10 -10 / +70 +70 / +80	3		20	≤ 10		15 12.5 15	- - -	16 13.5 16	- - -	17 14.5 17	- - -	90
CF891 chainflex® M	-20 / -10 -10 / +70 +70 / +80	3		20	≤ 10		15 12.5 15	- - -	16 13.5 16	- - -	17 14.5 17	- - -	94
CF170.D	-25 / -15 -15 / +70 +70 / +80	3	2	20	≤ 20		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	98
CF180	-25 / -15 -15 / +70 +70 / +80	3	2	20	≤ 20		10 7.5 10	17.5 15 17.5	11 8.5 11	18.5 16 18.5	12 9.5 12	19.5 17 19.5	102
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	104
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	108
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	112
CF9	-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
CF10	-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	120
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	124
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	128
CF98	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 100			5 4 5		5 4 5		5 4 5	132
CF99	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 100			5 4 5		5 4 5		5 4 5	134

⁽¹⁾ Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ►Page 22-25






* Guaranteed lifetime, higher number of double strokes possible.
Figures in brackets refer to chainflex® M cables

PVC Control cable | CF880






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

**chainflex® M -
5 million double
strokes. Guaranteed.**



Dynamic information

	Bending radius	e-chain®	minimum 12.5 x d
		flexible	minimum 10 x d
		fixed	minimum 7 x d
	Temperature	e-chain®	+5 °C to +70 °C
		flexible	-5 °C to +70 °C (following EN 60811-504)
		fixed	-15 °C to +70 °C (following DIN EN 50305)
	v max.	unsupported	3 m/s
	a max.		20m/s ²
	Travel distance		Unsupported travels

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to EN 60228)
	Core insulation	Mechanically high-quality PVC mixture
	Core stranding	Cores stranded in optimized pitch
	Core identification	Cores black with white numerals, one core green-yellow.
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in e-chains®. Colour: Jet black (similar to RAL 9005)

Electrical information









	Nominal voltage	300/500 V
	Testing voltage	2000 V (following DIN EN 50396)

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

1,040 types from stock no cutting costs ...
(up to 10 cuts of the same types)

Class 3.1.1 3 low duty applications 1 unsupported travels 1 not oil-resistant

Properties and approvals

	Flame-retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	UL/CSA	Style 11008 and 2464, 300 V, 80 °C
	NFPA	Following NFPA 79-2012 chapter 12.9
	EAC	Certified according to no. TC RU C-DE.ME77.B.01560
	CTP	Certified according to no. C-DE.PB49.B.00449
	Lead free	Following 2011/65/EC (RoHS-II)
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*				1 million	3 million	5 million
Temperature, from/to [°C]	v max. [m/s] unsupported	a max. [m/s ²]	Travel distance [m]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5 / +15				15	16	17
+15 / +60	3	20	≤ 10	12,5	13,5	14,5
+60 / +70				15	16	17

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For flexing applications
- Without influence of oil
- Preferably indoor applications
- Especially for unsupported travel distances
- Wood/stone processing, packaging industry, supply systems, handling, adjusting equipment

... no minimum order quantity ...

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Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF880.05.02	2 x 0.5	5.5	11	38
CF880.05.03	3 G 0.5	6.0	16	45
CF880.05.04	4 G 0.5	6.5	22	54
CF880.05.05	5 G 0.5	7.0	27	67
CF880.05.07 ^{1.4)}	7 G 0.5	8.5	37	99
CF880.05.12	12 G 0.5	9.5	64	145
CF880.05.18	18 G 0.5	11.5	96	211
CF880.05.24 ^{1.4)}	24 G 0.5	13.0	127	279
CF880.07.02	2 x 0.75	6.0	16	47
CF880.07.03	3 G 0.75	6.5	24	56
CF880.07.04	4 G 0.75	7.0	32	69
CF880.07.05	5 G 0.75	7.5	40	84
CF880.07.07	7 G 0.75	9.0	56	125
CF880.07.12	12 G 0.75	10.5	96	186
New CF880.07.18	18 G 0.75	13.0	143	278
CF880.07.24	24 G 0.75	14.5	191	369
CF880.10.02	2 x 1.0	6.5	22	54
CF880.10.03	3 G 1.0	6.5	32	68
CF880.10.04	4 G 1.0	7.0	43	83
CF880.10.05	5 G 1.0	8.0	53	101
CF880.10.07	7 G 1.0	9.5	74	153
CF880.10.12	12 G 1.0	11.5	127	229
CF880.10.18	18 G 1.0	13.5	191	334
CF880.10.24	24 G 1.0	15.5	254	451
CF880.15.02	2 x 1.5	7.5	32	83
CF880.15.03	3 G 1.5	8.5	48	106
CF880.15.04	4 G 1.5	9.0	64	131
CF880.15.05	5 G 1.5	10.0	80	166
CF880.15.07	7 G 1.5	12.5	111	250
CF880.15.12	12 G 1.5	14.5	191	372
New CF880.15.18	18 G 1.5	17.5	286	548
CF880.15.24	24 G 1.5	20.5	381	739


^{1.4)} Delivery time: 4 weeks **Other types available on request.**
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
New CF880.25.03 ^{1.4)}	3 G 2.5	9.0	80	147
CF880.25.04	4 G 2.5	10.0	106	189
New CF880.25.05	5 G 2.5	11.5	132	235
New CF880.25.07	7 G 2.5	14.0	185	354
New CF880.25.12	12 G 2.5	16.5	317	533
New CF880.25.24 ^{1.4)}	24 G 2.5	23.0	634	1063

^{1.4)} Delivery time: 4 weeks **Other types available on request.**
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

 **Order example: CF880.07.03 – in your desired length (0.5 m steps)**
 CF880 chainflex® series .07 Code nominal cross section .03 Number of cores

 Online order: www.chainflex.eu/CF880

 Delivery time 24h or today.
 Delivery time means time until shipping of goods.

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

... no minimum order quantity ...






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PVC Control cable | CF881







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

**chainflex® M -
5 million double
strokes. Guaranteed.**



Dynamic information

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

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to EN 60228).
	Core insulation	Mechanically high-quality PVC mixture.
	Core stranding	Cores stranded in optimized pitch.
	Core identification	Cores black with white numerals, one core green-yellow.
	Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical.
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in e-chains®. Colour: Jet black (similar to RAL 9005)

Electrical information

	Nominal voltage	300/500 V
	Testing voltage	2000 V (following DIN EN 50396)









Class 3.1.1

3 low duty applications

1 unsupported travels

1 not oil-resistant

Properties and approvals

	Flame-retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	UL/CSA	Style 11008 and 2464, 300 V, 80 °C
	NFPA	Following NFPA 79-2012 chapter 12.9
	EAC	Certified according to no. TC RU C-DE.ME77.B.01560
	CTP	Certified according to no. C-DE.PB49.B.00449
	Lead free	Following 2011/65/EC (RoHS-II)
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*				1 million	3 million	5 million
Temperature, from/to [°C]	v max. [m/s] unsupported	a max. [m/s²]	Travel distance [m]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5 / +15				15	16	17
+15 / +60	3	20	≤ 10	12,5	13,5	14,5
+60 / +70				15	16	17

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For flexing applications
- Without influence of oil
- Preferably indoor applications
- Especially for unsupported travel distances
- Wood/stone processing, packaging industry, supply systems, handling, adjusting equipment

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

... no minimum order quantity ...

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1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)




Image exemplary.

Delivery program ¹⁾ Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF881.05.02 ^{1.5)}	(2 x 0.5)C	6.0	28	53
CF881.05.03	(3 G 0.5)C	6.5	34	60
CF881.05.04 ^{1.5)}	(4 G 0.5)C	7.0	44	75
CF881.05.05	(5 G 0.5)C	7.5	50	86
CF881.05.07 ^{1.5)}	(7 G 0.5)C	9.0	72	123
CF881.05.12	(12 G 0.5)C	10.5	104	172
CF881.05.18 ^{1.5)}	(18 G 0.5)C	12.0	141	238
CF881.05.24 ^{1.5)}	(24 G 0.5)C	14.0	179	310
CF881.07.02	(2 x 0.75)C	6.5	34	60
CF881.07.03	(3 G 0.75)C	7.0	47	76
CF881.07.04	(4 G 0.75)C	7.5	55	88
CF881.07.05	(5 G 0.75)C	8.0	69	111
CF881.07.07	(7 G 0.75)C	10.0	90	150
CF881.07.12	(12 G 0.75)C	11.5	136	215
New CF881.07.18	(18 G 0.75)C	13.5	194	306
CF881.07.24	(24 G 0.75)C	15.5	271	423
CF881.10.02	(2 x 1.0)C	7.0	44	73
CF881.10.03	(3 G 1.0)C	7.5	55	85
CF881.10.04	(4 G 1.0)C	8.0	72	107
CF881.10.05	(5 G 1.0)C	8.5	82	126
CF881.10.07	(7 G 1.0)C	10.5	114	177
CF881.10.12	(12 G 1.0)C	12.0	173	256
CF881.10.18	(18 G 1.0)C	14.5	262	386
CF881.10.24	(24 G 1.0)C	16.5	335	494
CF881.15.02	(2 x 1.5)C	8.5	61	104
CF881.15.03	(3 G 1.5)C	9.0	77	125
CF881.15.04	(4 G 1.5)C	10.0	98	159
CF881.15.05	(5 G 1.5)C	11.0	120	192
CF881.15.07	(7 G 1.5)C	13.0	163	270
CF881.15.12	(12 G 1.5)C	16.0	272	425
New CF881.15.18	(18 G 1.5)C	18.5	387	608
CF881.15.24	(24 G 1.5)C	21.5	492	785


^{1.5)} Delivery time: 5 weeks **Other types available on request.**
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Delivery program ¹⁾ Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
New CF881.25.03 ^{1.5)}	(3 G 2.5)C	10.0	114	171
CF881.25.04	(4 G 2.5)C	11.0	146	221
New CF881.25.05	(5 G 2.5)C	12.0	178	262
New CF881.25.07	(7 G 2.5)C	15.0	256	384
New CF881.25.12	(12 G 2.5)C	17.5	409	585
New CF881.25.24 ^{1.5)}	(24 G 2.5)C	24.0	766	1101

^{1.5)} Delivery time: 5 weeks **Other types available on request.**
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

 **Order example: CF881.40.40 – in your desired length (0.5 m steps)**
CF881 chainflex® series .40 Code nominal cross section .40 Number of cores

 Online order: www.chainflex.eu/CF881

 Delivery time 24h or today.
 Delivery time means time until shipping of goods.

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

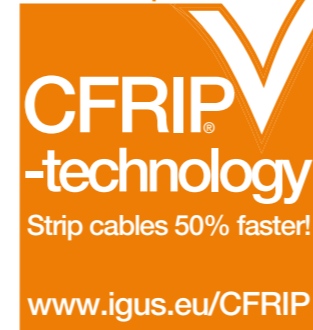
... no minimum order quantity ...

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PVC Control cable | CF130.UL

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

Product improvement!



Dynamic information

	Bending radius	e-chain®	minimum 7.5 x d
		flexible	minimum 6 x d
		fixed	minimum 4 x d
	Temperature	e-chain®	+5 °C to +70 °C
		flexible	-5 °C to +70 °C (following EN 60811-504)
		fixed	-15 °C to +70 °C (following DIN EN 50305)
	v max.	unsupported	3 m/s
		gliding	2 m/s
	a max.	20m/s²	
	Travel distance	Unsupported travel distances and up to 50 m for gliding applications, Class 4	
	Torsion	± 90°, with 1 m cable length	

Cable structure

	Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228)
	Core insulation	Mechanically high-quality TPE mixture
	Core stranding	Number of cores <12: Cores stranded in a layer with short pitch length Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores < 0.5 mm²: Colour code in accordance with DIN 47100 Cores ≥ 0.5 mm²: Cores black with white numerals, one core green-yellow
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in energy chains® (following DIN VDE 0281 Part 5). Colour: Silver grey (similar to RAL 7001)
	CFRIP®	Strip cables 50% faster: The tear strip is in the outer jacket (starting from manufacturing date 5/2013) Video ▶ www.igus.eu/CFRIP

Electrical information

	Nominal voltage	Number of cores < 12: 300/500 V Number of cores < 12 (0.25-0.34): 300/500 V Number of cores ≥ 12: 300/300 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

EPLAN download, configurators ▶ www.igus.eu/CF130

1,040 types from stock no cutting costs ...
(up to 10 cuts of the same types)

Class 4.4.1 4 medium duty applications 4 travel distance up to 50 m 1 not oil-resistant

Properties and approvals

	Flame-retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	UL/CSA	Style 10493 and 20200, 300 V, 60 °C
	NFFPA	Following NFFPA 79-2012 chapter 12.9
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	CTP	Certified according to no. C-DE.PB49.B.00416
	CEI	Following CEI 20-35
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1. Outer jacket material complies with CF130.15.07.UL, tested by IPA according to standard 14644-1.
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes* Temperature, from/to [°C] Travel distance [m]	5 million		7.5 million		10 million	
	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m
+5 / +15	10	12,5	11	13,5	12	14,5
+15 / +60 ≤ 50	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 possible - please ask for your individual calculation.

Typical application areas

- For medium duty applications
- Without influence of oil
- Preferably indoor applications
- Unsupported travel distances and up to 50 m for gliding applications
- Wood/stone processing, packaging industry, supply systems, handling, adjusting equipment



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

... no minimum order quantity ...

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Strip cables 50 % faster

IGUS® CHAINFLEX® CF130.UL

Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF130.02.03.UL	3 x 0.25	5.0	9	25
CF130.02.04.UL	4 x 0.25	5.5	11	29
CF130.02.06.UL	6 x 0.25	6.0	17	49
CF130.02.07.UL	7 x 0.25	6.5	20	47
CF130.02.12.UL	12 x 0.25	8.5	35	98
CF130.02.20.UL	20 x 0.25	10.5	54	148
CF130.02.25.UL	25 x 0.25	11.5	70	158
CF130.02.30.UL	30 x 0.25	12.5	80	189
CF130.03.02.UL	2 x 0.34	5.0	8	26
CF130.03.05.UL	5 x 0.34	6.0	19	41
CF130.05.02.UL	2 x 0.50	5.5	11	38
CF130.05.03.UL	3 G 0.50	5.5	17	40
CF130.05.04.UL	4 G 0.50	6.0	22	48
CF130.05.05.UL	5 G 0.50	6.5	28	57
CF130.05.07.UL	7 G 0.50	7.5	39	78
CF130.05.12.UL	12 G 0.50	10.0	66	143
CF130.05.18.UL	18 G 0.50	12.0	99	188
CF130.05.25.UL	25 G 0.50	13.5	138	268
CF130.07.02.UL	2 x 0.75	6.0	16	42
CF130.07.03.UL	3 G 0.75	6.0	24	51
CF130.07.04.UL	4 G 0.75	6.5	32	59
CF130.07.05.UL	5 G 0.75	7.0	40	71
CF130.07.07.UL	7 G 0.75	8.0	56	98
CF130.07.12.UL	12 G 0.75	11.0	96	158
CF130.07.18.UL	18 G 0.75	13.5	143	235
CF130.07.25.UL	25 G 0.75	16.0	198	355
CF130.07.36.UL	36 G 0.75	19.0	313	550
CF130.07.42.UL ^{1.4)}	42 G 0.75	21.0	365	632
CF130.10.02.UL	2 x 1.0	6.0	22	52
CF130.10.03.UL	3 G 1.0	6.5	32	62
CF130.10.04.UL	4 G 1.0	7.0	43	76
CF130.10.05.UL	5 G 1.0	7.5	53	92
CF130.10.07.UL	7 G 1.0	9.0	74	125
CF130.10.12.UL	12 G 1.0	12.5	127	206
CF130.10.18.UL	18 G 1.0	15.0	191	290
CF130.10.25.UL	25 G 1.0	17.5	264	411


^{1.4)} Delivery time: 4 weeks
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Delivery program Part no.	Number of cores and conductor nominal cross section [mm²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF130.15.02.UL	2 x 1.5	7.0	32	64
CF130.15.03.UL	3 G 1.5	7.0	48	79
CF130.15.04.UL	4 G 1.5	8.0	64	100
CF130.15.05.UL	5 G 1.5	8.5	80	120
CF130.15.07.UL ¹⁷⁾	7 G 1.5	9.5	111	160
CF130.15.12.UL	12 G 1.5	13.0	191	287
CF130.15.18.UL	18 G 1.5	17.5	286	484
CF130.15.25.UL	25 G 1.5	19.5	396	617
CF130.15.36.UL ^{1.4)}	36 G 1.5	23.5	624	932
CF130.15.42.UL ^{1.4)}	42 G 1.5	26.5	729	1084
CF130.25.03.UL	3 G 2.5	8.5	80	123
CF130.25.04.UL	4 G 2.5	9.5	106	153
CF130.25.07.UL ¹⁷⁾	7 G 2.5	12.0	185	261
CF130.25.12.UL	12 G 2.5	17.5	317	530
CF130.40.03.UL	3 G 4.0	10.0	127	196
New CF130.40.05.UL ^{1.4)}	5 G 4.0	12.0	212	313
CF130.60.04.UL	4 G 6.0	13.5	254	387
CF130.60.05.UL	5 G 6.0	14.5	317	467
New CF130.100.05.UL ^{1.4)}	5 G 10.0	19.0	528	749
New CF130.160.05.UL	5 G 16.0	22.5	845	1135
New CF130.250.05.UL ^{1.4)}	5 G 25.0	28.0	1320	1692

^{1.4)} Delivery time: 4 weeks
¹⁷⁾ Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m.
 When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

 **Order example: CF130.05.02.UL – in your desired length (0.5 m steps)**
 CF130.UL chainflex® series .05 Code nominal cross section .02 Number of cores

 Online order: www.chainflex.eu/CF130

 Delivery time 24h or today.
 Delivery time means time until shipping of goods.

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

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

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




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PVC Control cable | CF140.UL

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

Dynamic information

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

Cable structure

	Conductor	Fine-wire stranded conductor consisting of bare copper wires (According to EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Number of cores <12: Cores stranded in a layer with short pitch length. Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores < 0.5 mm²: Colour code in accordance with DIN 47100 Cores ≥ 0.5 mm²: Cores black with white numerals, one core green-yellow
	Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
	Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage approx. 55% linear, approx. 80% optical.
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in energy chains® (following DIN VDE 0281 Part 5). Colour: Silver grey (similar to RAL 7001)
	CFRIP®	Strip cables 50% faster: The tear strip is in the inner jacket Video ▶ www.igus.eu/CFRIP



www.igus.eu/CFRIP



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1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

Product improvement!

CFRIP
-technology



Strip cables 50% faster!

www.igus.eu/CFRIP











Class 4.4.1

4 medium duty applications 4 travel distance up to 50 m 1 not oil-resistant

Electrical information

	Nominal voltage	Number of cores < 12: 300/500 V Number of cores < 12 (0.25-0.34): 300/500 V Number of cores ≥ 12: 300/300 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

Properties and approvals

	Flame-retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	UL/CSA	Style 10493 and 20200, 300 V, 60 °C
	NFFPA	Following NFFPA 79-2012 chapter 12.9
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	CTP	Certified according to no. C-DE.PB49.B.00416
	CEI	Following CEI 20-35
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1. Outer jacket material complies with CF130.15.07.UL, tested by IPA according to standard 14644-1.
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Temperature, from/to [°C]	Travel distance [m]	5 million		7.5 million		10 million	
		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	≤ 50	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
+15 / +60		10	12,5	11	13,5	12	14,5
+60 / +70		7,5	10	8,5	11	9,5	12

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For medium duty applications
- Without influence of oil
- Preferably indoor applications
- Unsupported travel distances and up to 50 m for gliding applications
- Wood/stone processing, packaging industry, supply systems, handling, adjusting equipment

... no minimum order quantity ...

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Strip cables 50 % faster

IGUS® CHAINFLEX® CF140.UL

Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF140.02.12.UL	(12 x 0.25)C	10.5	76	118
CF140.03.05.UL	(5 x 0.34)C	7.5	37	74
CF140.05.03.UL	(3 G 0.5)C	7.0	34	74
CF140.05.05.UL	(5 G 0.5)C	8.0	48	94
CF140.05.18.UL	(18 G 0.5)C	14.5	156	257
CF140.05.36.UL	(36 G 0.5)C	18.5	274	485
CF140.07.03.UL	(3 G 0.75)C	8.0	44	87
CF140.07.04.UL	(4 G 0.75)C	8.5	54	104
CF140.07.05.UL	(5 G 0.75)C	9.0	64	118
CF140.07.07.UL	(7 G 0.75)C	10.0	87	156
CF140.07.12.UL	(12 G 0.75)C	13.0	145	273
CF140.07.18.UL	(18 G 0.75)C	15.5	207	372
CF140.07.25.UL	(25 G 0.75)C	18.0	278	497
CF140.07.36.UL	(36 G 0.75)C	22.0	416	764
CF140.07.42.UL ^{1.6)}	(42 G 0.75)C	24.0	489	837
CF140.10.02.UL	(2 x 1.0)C	8.0	37	88
CF140.10.03.UL	(3 G 1.0)C	8.5	54	103
CF140.10.04.UL	(4 G 1.0)C	9.0	65	114
CF140.10.05.UL	(5 G 1.0)C	9.5	78	132
CF140.10.07.UL	(7 G 1.0)C	10.5	110	182
CF140.10.12.UL	(12 G 1.0)C	14.0	178	307
CF140.10.18.UL	(18 G 1.0)C	17.5	256	430
CF140.10.25.UL	(25 G 1.0)C	19.5	347	584
CF140.15.03.UL	(3 G 1.5)C	9.0	72	124
CF140.15.04.UL	(4 G 1.5)C	9.5	90	146
CF140.15.05.UL	(5 G 1.5)C	10.5	115	175
CF140.15.07.UL ¹⁷⁾	(7 G 1.5)C	12.0	153	235
CF140.15.12.UL	(12 G 1.5)C	16.0	249	403
CF140.15.18.UL	(18 G 1.5)C	19.0	368	486
CF140.15.25.UL	(25 G 1.5)C	22.5	495	768
CF140.15.36.UL ^{1.6)}	(36 G 1.5)C	26.5	715	1202
CF140.15.42.UL ^{1.6)}	(42 G 1.5)C	29.5	841	1422
CF140.25.03.UL	(3 G 2.5)C	10.5	113	208
CF140.25.04.UL	(4 G 2.5)C	11.5	148	219

^{1.6)} Delivery time: 6 weeks

¹⁷⁾ Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m. When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.

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



Order example: **CF140.10.04.UL** – in your desired length (0.5 m steps)
CF140.UL chainflex® series .10 Code nominal cross section .04 Number of cores



Online order: www.chainflex.eu/CF140



Delivery time 24h or today.
Delivery time means time until shipping of goods.



chainflex® CF140.UL in the feeder automation. e-chain®: easychain®



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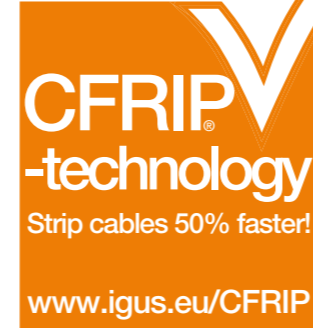
(up to 10 cuts of the same types)



PVC Control cable | CF5

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

Product improvement!



Dynamic information

	Bending radius	e-chain®	minimum 6.8 x d
		flexible	minimum 5 x d
		fixed	minimum 4 x d
	Temperature	e-chain®	+5 °C to +70 °C
		flexible	-5 °C to +70 °C (following EN 60811-504)
		fixed	-15 °C to +70 °C (following DIN EN 50305)
	v max.	unsupported	10 m/s
		gliding	5 m/s
	a max.	80 m/s ²	
	Travel distance	Unsupported travel distances and up to 100 m for gliding applications, Class 5	
	Torsion	± 90°, with 1 m cable length	

Cable structure

	Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228)
	Core insulation	Cores ≤ 0.5 mm²: Mechanically high-quality TPE mixture. Cores ≥ 0.75 mm²: Mechanically high-quality PVC mixture (following DIN VDE 0207 part 4).
	Core stranding	Number of cores < 12: Cores stranded in a layer with short pitch length. Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores ≤ 0.34 mm²: Colour code in accordance with DIN 47100 Cores ≥ 0.5 mm²: Cores black with white numerals, one core green-yellow
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in energy chains® (following DIN VDE 0281 Part 13). Colour: Moss green (comparable RAL 6005).
	CFRIP®	Strip cables 50% faster: The tear strip is in the outer jacket Video ▶ www.igus.eu/CFRIP

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1,040 types from stock no cutting costs ...
(up to 10 cuts of the same types)

Class 5.5.2 5 heavy duty applications 5 travel distance up to 100 m 2 oil-resistant

Electrical information

	Nominal voltage	300/500 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

Properties and approvals

	UV-resistance	Medium
	Oil	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame-retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	UL/CSA	≤ 0.5 mm ² : Style 10492 and 2570, 600 V, 80 °C ≥ 0.75 mm ² : Style 11113 and 2570, 600 V, 80 °C
	NFFPA	Following NFFPA 79-2012 chapter 12.9
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	CTP	Certified according to no. C-DE.PB49.B.00416
	CEI	Following CEI 20-35
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 2, material/cable tested by IPA according to ISO standard 14644-1
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Temperature, Travel distance from/to [°C] [m]	5 million		7.5 million		10 million	
	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m
+5 / +15	7,5	10	8,5	11	9,5	12
+15 / +60 ≤ 50	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 possible - please ask for your individual calculation.

Typical application areas

- For heavy duty applications
- Light oil influence
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Unsupported travel distances and up to 100 m for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/packages machines, quick handling, indoor cranes

... no minimum order quantity ...

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Strip cables 50 % faster

IGUS® CHAINFLEX® CF5

Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF5.02.36	36 x 0.25	15.0	105	215
CF5.03.15	15 x 0.34	11.0	58	141
CF5.03.18	18 x 0.34	12.0	71	182
CF5.03.25	25 x 0.34	14.0	97	244
CF5.05.02	2 x 0.5	6.0	11	38
CF5.05.03	3 G 0.5	6.0	16	42
CF5.05.05	5 G 0.5	7.0	27	75
CF5.05.07	7 G 0.5	8.0	38	80
CF5.05.12	12 G 0.5	11.0	64	134
CF5.05.18	18 G 0.5	13.0	96	195
CF5.05.25	25 G 0.5	16.0	132	289
CF5.05.30	30 G 0.5	18.0	159	417
CF5.07.03	3 G 0.75	6.5	24	56
CF5.07.04	4 G 0.75	7.0	33	68
CF5.07.05	5 G 0.75	7.5	41	84
CF5.07.07	7 G 0.75	9.0	58	118
CF5.07.12	12 G 0.75	12.5	96	194
CF5.07.18	18 G 0.75	15.0	143	278
CF5.07.25	25 G 0.75	17.5	203	397
CF5.07.36	36 G 0.75	22.0	285	605
CF5.07.42	42 G 0.75	24.0	333	658
CF5.10.03	3 G 1.0	6.5	32	57
CF5.10.04	4 G 1.0	7.0	43	80
CF5.10.05	5 G 1.0	8.0	53	97
CF5.10.07	7 G 1.0	9.5	78	135
CF5.10.12	12 G 1.0	13.0	127	235
CF5.10.18	18 G 1.0	16.5	191	318
CF5.10.25	25 G 1.0	19.5	264	503

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


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1,040 types from stock no cutting costs ...


(up to 10 cuts of the same types)

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF5.15.03	3 G 1.5	7.5	48	77
CF5.15.04	4 G 1.5	8.0	64	108
CF5.15.05	5 G 1.5	9.0	79	132
CF5.15.07 ¹⁷⁾	7 G 1.5	10.5	112	187
CF5.15.12	12 G 1.5	15.0	191	276
CF5.15.18	18 G 1.5	19.5	285	496
CF5.15.25	25 G 1.5	21.5	396	670
CF5.15.36	36 G 1.5	26.5	570	1001
CF5.25.04	4 G 2.5	10.0	102	176
CF5.25.05	5 G 2.5	11.0	128	208
CF5.25.07 ¹⁷⁾	7 G 2.5	13.0	181	291
CF5.25.12	12 G 2.5	18.5	303	499
CF5.25.18	18 G 2.5	23.5	456	794
CF5.25.25	25 G 2.5	27.5	637	1100

¹⁷⁾ Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m. When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core x= without earth core

 Order example: **CF5.07.03** – in your desired length (0.5 m steps)
CF5 chainflex® series **.07** Code nominal cross section **.03** Number of cores

 Online order: www.chainflex.eu/CF5

 Delivery time 24h or today.
Delivery time means time until shipping of goods.



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

... no minimum order quantity ...

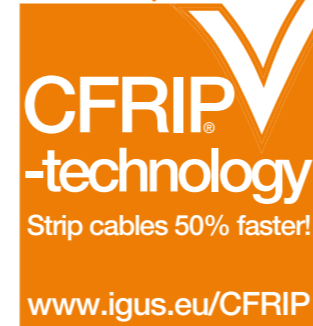
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PVC Control cable | CF6

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

Product improvement!



Dynamic information

	Bending radius	e-chain®	minimum 6.8 x d
		flexible	minimum 5 x d
		fixed	minimum 4 x d
	Temperature	e-chain®	+5 °C to +70 °C
		flexible	-5 °C to +70 °C (following EN 60811-504)
		fixed	-15 °C to +70 °C (following DIN EN 50305)
	v max.	unsupported	10 m/s
		gliding	5 m/s
	a max.		80 m/s²
	Travel distance	Unsupported travel distances and up to 100 m for gliding applications, Class 5	

Cable structure

	Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228)
	Core insulation	Cores ≤ 0.5 mm²: Mechanically high-quality TPE mixture. Cores ≥ 0.75 mm²: Mechanically high-quality PVC mixture (following DIN VDE 0207 Part 4)
	Core stranding	Number of cores < 12: Cores stranded in a layer with short pitch length. Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores ≤ 0.34 mm²: Colour code in accordance with DIN 47100 Cores ≥ 0.5 mm²: Cores black with white numerals, one core green-yellow
	Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in energy chains® (following DIN VDE 0281 Part 13). Colour: Moss green (comparable RAL 6005).
	CFRIP®	Strip cables 50% faster: The tear strip is in the inner jacket Video ► www.igus.eu/CFRIP



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

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

Class 5.5.2 5 heavy duty applications 5 travel distance up to 100 m 2 oil-resistant

Electrical information

	Nominal voltage	300/500 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

Properties and approvals

	UV-resistance	Medium
	Oil	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame-retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	UL/CSA	≤ 0.5 mm²: Style 10492 and 2570, 600 V, 80 °C ≥ 0.75 mm²: Style 11113 and 2570, 600 V, 80 °C
	NFFPA	Following NFFPA 79-2012 chapter 12.9
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	CTP	Certified according to no. C-DE.PB49.B.00416
	CEI	Following CEI 20-35
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 2, material/cable tested by IPA according to ISO standard 14644-1
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes* Temperature, Travel distance from/to [°C] [m]	5 million		7.5 million		10 million	
	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m
+5 / +15	7,5	10	8,5	11	9,5	12
+15 / +60 ≤ 50	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 possible - please ask for your individual calculation.

Typical application areas

- For heavy duty applications
- Light oil influence
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Unsupported travel distances and up to 100 m for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/packages machines, quick handling, indoor cranes

... no minimum order quantity ...

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Strip cables 50 % faster

IGUS® CHAINFLEX® CF6

Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF6.02.04	(4 x 0.25)C	7.0	30	62
CF6.02.25	(25 x 0.25)C	14.5	118	267
CF6.03.05	(5 x 0.34)C	7.5	39	92
CF6.05.02	(2 x 0.5)C	7.0	31	78
CF6.05.05	(5 G 0.5)C	8.5	52	109
CF6.05.07	(7 G 0.5)C	10.0	67	131
CF6.05.09	(9 G 0.5)C	12.0	74	157
CF6.05.12	(12 G 0.5)C	13.0	104	238
CF6.05.18	(18 G 0.5)C	15.0	154	295
CF6.05.25	(25 G 0.5)C	17.5	205	412
CF6.07.03	(3 G 0.75)C	8.0	49	101
CF6.07.04	(4 G 0.75)C	8.5	59	116
CF6.07.05	(5 G 0.75)C	9.0	71	132
CF6.07.07	(7 G 0.75)C	10.5	91	157
CF6.07.12	(12 G 0.75)C	14.0	137	275
CF6.07.18	(18 G 0.75)C	17.5	209	413
CF6.07.24 ^{3) 11)}	(24 G 0.75)C	19.5	266	530
CF6.07.25	(25 G 0.75)C	19.5	283	554
CF6.10.03	(3 G 1.0)C	8.0	57	110
CF6.10.04	(4 G 1.0)C	9.0	68	120
CF6.10.05	(5 G 1.0)C	9.5	81	141
CF6.10.07	(7 G 1.0)C	12.0	109	211
CF6.10.12	(12 G 1.0)C	15.0	172	330
CF6.10.18	(18 G 1.0)C	19.0	261	498
CF6.10.25	(25 G 1.0)C	21.0	344	617

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 (star-quad 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 mentioned external 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/CF6

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

Delivery program Part no.	Number of cores and conductor nominal cross section [mm²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF6.15.03	(3 G 1.5)C	9.0	76	126
CF6.15.04	(4 G 1.5)C	9.5	92	160
CF6.15.05	(5 G 1.5)C	10.5	112	184
CF6.15.07 ¹⁷⁾	(7 G 1.5)C	13.0	156	268
CF6.15.12	(12 G 1.5)C	17.0	240	390
CF6.15.18	(18 G 1.5)C	21.0	368	604
CF6.15.25	(25 G 1.5)C	24.0	493	896
CF6.15.36	(36 G 1.5)C	30.0	728	1346
CF6.25.04	(4 G 2.5)C	11.5	140	231

¹⁷⁾ Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m. When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.

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



Order example: CF6.15.12 – in your desired length (0.5 m steps)
CF6 chainflex® series .15 Code nominal cross section .12 Number of cores



Online order: www.chainflex.eu/CF6



Delivery time 24h or today.
Delivery time means time until shipping of goods.



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

... no minimum order quantity ...

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iguPUR Control cable | CF890

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

**chainflex® M -
5 million double
strokes. Guaranteed.**

Dynamic information

	Bending radius	e-chain®	minimum 12.5 x d
		flexible	minimum 10 x d
		fixed	minimum 7 x d
	Temperature	e-chain®	-20 °C to +80 °C
		flexible	-40 °C to +80 °C (following EN 60811-504)
		fixed	-50 °C to +80 °C (following DIN EN 50305)
	v max.	unsupported	3 m/s
		a max.	20m/s ²
	Travel distance	Unsupported travel distances.	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to EN 60228).
	Core insulation	Mechanically high-quality PVC mixture.
	Core stranding	Cores stranded in optimized pitch.
	Core identification	Cores black with white numerals, one core green-yellow.
	Outer jacket	Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in e-chains®. Colour: Jet black (similar to RAL 9005)

Electrical information

	Nominal voltage	300/500 V
	Testing voltage	2000 V (following DIN EN 50396)

Class 3.1.3

3 low duty applications

1 unsupported travels

3 oil-resistant

Properties and approvals

	UV-resistance	Medium
	Flame-retardant	According to IEC 60332-1-2, CEI 20-35, FT-2
	Oil	Oil-resistant (following DIN EN 50363-10-2)
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	UL/CSA	Style 11008 and 20940, 600V, 80°C
	EAC	Certified according to no. TC RU C-DE.ME77.B.01560
	CTP	Certified according to no. C-DE.PB49.B.00449
	Lead free	Following 2011/65/EC (RoHS-II)
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*		1 million	3 million	5 million		
Temperature, from/to [°C]	v max. [m/s] unsupported	a max. [m/s ²]	Travel distance [m]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20 / -10				15	16	17
-10 / +70	3	20	≤ 10	12,5	13,5	14,5
+70 / +80				15	16	17

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For flexing applications
- With influence of oil
- Indoor and outdoor applications without direct sun radiation
- Especially for unsupported travel distances
- Machining units/machine tools, low temperature applications



Image exemplary.

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)



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... no minimum order quantity ...

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Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF890.05.02 ^{1.4)}	2 x 0.5	5.5	11	34
CF890.05.03	3 G 0.5	6.0	16	42
CF890.05.04 ^{1.4)}	4 G 0.5	6.5	22	50
CF890.05.05	5 G 0.5	7.0	27	62
CF890.05.07	7 G 0.5	8.5	37	92
CF890.05.12	12 G 0.5	9.5	64	136
CF890.05.18	18 G 0.5	11.5	96	198
CF890.05.24 ^{1.4)}	24 G 0.5	13.0	127	262
CF890.07.02	2 x 0.75	6.0	16	42
CF890.07.03	3 G 0.75	6.5	24	52
CF890.07.04	4 G 0.75	7.0	32	65
CF890.07.05	5 G 0.75	7.5	40	79
CF890.07.07	7 G 0.75	9.0	56	116
CF890.07.12	12 G 0.75	10.5	96	176
New CF890.07.18	18 G 0.75	13.0	143	262
CF890.07.24	24 G 0.75	14.5	191	348
CF890.10.02	2 x 1.0	6.5	22	50
CF890.10.03	3 G 1.0	6.5	32	63
CF890.10.04	4 G 1.0	7.0	43	78
CF890.10.05	5 G 1.0	8.0	53	95
CF890.10.07	7 G 1.0	9.5	74	142
CF890.10.12	12 G 1.0	11.5	127	217
CF890.10.18	18 G 1.0	13.5	191	318
CF890.10.24	24 G 1.0	15.5	254	426
CF890.15.02	2 x 1.5	7.5	32	77
CF890.15.03	3 G 1.5	8.5	48	99
CF890.15.04	4 G 1.5	9.0	64	123
CF890.15.05	5 G 1.5	10.0	80	156
CF890.15.07	7 G 1.5	12.5	111	233
CF890.15.12	12 G 1.5	14.5	191	352
New CF890.15.18	18 G 1.5	17.5	286	520
CF890.15.24	24 G 1.5	20.5	381	697


^{1.4)} Delivery time: 4 weeks **Other types available on request.**
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
New CF890.25.03 ^{1.4)}	3 G 2.5	9.0	80	139
CF890.25.04	4 G 2.5	10.0	106	179
New CF890.25.05	5 G 2.5	11.5	132	222
New CF890.25.07	7 G 2.5	14.0	185	333
New CF890.25.12	12 G 2.5	16.5	317	508
New CF890.25.24 ^{1.4)}	24 G 2.5	23.0	634	1014

^{1.4)} Delivery time: 4 weeks **Other types available on request.**
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

 **Order example: CF890.07.18 – in your desired length (0.5 m steps) CF890 chainflex® series .07 Code nominal cross section .18 Number of cores**

 Online order: www.chainflex.eu/CF890

 Delivery time 24h or today.
 Delivery time means time until shipping of goods.

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

... no minimum order quantity ...






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iguPUR Control cable | CF891







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

**chainflex® M -
5 million double
strokes. Guaranteed.**



Dynamic information

	Bending radius	e-chain®	minimum 12.5 x d
		flexible	minimum 10 x d
		fixed	minimum 7 x d
	Temperature	e-chain®	-20 °C to +80 °C
		flexible	-40 °C to +80 °C (following EN 60811-504)
		fixed	-50 °C to +80 °C (following DIN EN 50305)
	v max.	unsupported	3 m/s
	a max.		20m/s ²
	Travel distance		Unsupported travel distances.

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to EN 60228).
	Core insulation	Mechanically high-quality PVC mixture.
	Core stranding	Cores stranded in optimized pitch.
	Core identification	Cores black with white numerals, one core green-yellow.
	Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical.
	Outer jacket	Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in e-chains®. Colour: Jet black (similar to RAL 9005)

Electrical information

	Nominal voltage	300/500 V
	Testing voltage	2000 V (following DIN EN 50396)








Class 3.1.3

3 low duty applications

1 unsupported travels

3 oil-resistant

Properties and approvals

	UV-resistance	Medium
	Flame-retardant	According to IEC 60332-1-2, CEI 20-35, FT-2
	Oil	Oil-resistant (following DIN EN 50363-10-2)
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
	UL/CSA	Style 11008 and 20940, 600V, 80°C
	EAC	Certified according to no. TC RU C-DE.ME77.B.01560
	CTP	Certified according to no. C-DE.PB49.B.00449
	Lead free	Following 2011/65/EC (RoHS-II)
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*		1 million	3 million	5 million		
Temperature, from/to [°C]	v max. [m/s] unsupported	a max. [m/s ²]	Travel distance [m]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20 / -10			≤ 10	15	16	17
-10 / +70	3	20		12,5	13,5	14,5
+70 / +80				15	16	17

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For flexing applications
- With influence of oil
- Indoor and outdoor applications without direct sun radiation
- Especially for unsupported travel distances
- Machining units/machine tools, low temperature applications

CHAINFLEX® CF891

Image exemplary.

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)



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... no minimum order quantity ...

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Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF891.05.02 ^{1.5)}	(2 x 0.5)C	6.0	28	50
CF891.05.03	(3 G 0.5)C	6.5	34	57
CF891.05.04 ^{1.5)}	(4 G 0.5)C	7.0	44	71
CF891.05.05	(5 G 0.5)C	7.5	50	82
CF891.05.07 ^{1.5)}	(7 G 0.5)C	9.0	72	117
CF891.05.12	(12 G 0.5)C	10.5	104	165
CF891.05.18	(18 G 0.5)C	12.0	141	228
CF891.05.24 ^{1.5)}	(24 G 0.5)C	14.0	179	297
CF891.07.02	(2 x 0.75)C	6.5	34	57
CF891.07.03	(3 G 0.75)C	7.0	47	72
CF891.07.04	(4 G 0.75)C	7.5	55	84
CF891.07.05	(5 G 0.75)C	8.0	69	106
CF891.07.07	(7 G 0.75)C	10.0	90	143
CF891.07.12	(12 G 0.75)C	11.5	136	207
New CF891.07.18	(18 G 0.75)C	13.5	194	295
CF891.07.24	(24 G 0.75)C	15.5	271	407
CF891.10.02	(2 x 1.0)C	7.0	44	69
CF891.10.03	(3 G 1.0)C	7.5	55	82
CF891.10.04	(4 G 1.0)C	8.0	72	103
CF891.10.05	(5 G 1.0)C	8.5	82	121
CF891.10.07	(7 G 1.0)C	10.5	114	170
CF891.10.12	(12 G 1.0)C	12.0	173	247
CF891.10.18	(18 G 1.0)C	14.5	262	373
CF891.10.24	(24 G 1.0)C	16.5	335	477
CF891.15.02	(2 x 1.5)C	8.5	61	99
CF891.15.03	(3 G 1.5)C	9.0	77	119
CF891.15.04	(4 G 1.5)C	10.0	98	153
CF891.15.05	(5 G 1.5)C	11.0	120	185
CF891.15.07	(7 G 1.5)C	13.0	163	259
CF891.15.12	(12 G 1.5)C	16.0	272	410
New CF891.15.18	(18 G 1.5)C	18.5	387	588
CF891.15.24	(24 G 1.5)C	21.5	492	754

^{1.5)} Delivery time: 5 weeks **Other types available on request.**
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
New CF891.25.03 ^{1.5)}	(3 G 2.5)C	10.0	114	164
CF891.25.04	(4 G 2.5)C	11.0	146	214
New CF891.25.05	(5 G 2.5)C	12.0	178	253
New CF891.25.07	(7 G 2.5)C	15.0	256	371
New CF891.25.12	(12 G 2.5)C	17.5	409	567
New CF891.25.24 ^{1.5)}	(24 G 2.5)C	24.0	766	1062

^{1.5)} Delivery time: 5 weeks **Other types available on request.**
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core



Order example: CF891.05.04 – in your desired length (0.5 m steps)
CF891 chainflex® series .05 Code nominal cross section .04 Number of cores



Online order: www.chainflex.eu/CF891



Delivery time 24h or today.
 Delivery time means time until shipping of goods.

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

... no minimum order quantity ...

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PUR Control cable | CF170.D

- For medium duty applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- PVC-free/halogen-free
- Low-temperature-flexible
- Hydrolysis-resistant and microbe-resistant

This series will be replaced by CF77.UL.D and CF890!

Dynamic information

	Bending radius	e-chain®	minimum 7.5 x d
		flexible	minimum 6 x d
		fixed	minimum 4 x d
	Temperature	e-chain®	-25 °C to +80 °C
		flexible	-40 °C to +80 °C (following EN 60811-504)
		fixed	-50 °C to +80 °C (following DIN EN 50305)
	v max.	unsupported	3 m/s
		gliding	2 m/s
	a max.	20m/s²	
	Travel distance	Unsupported travel distances and up to 20 m for gliding applications, Class 3	

Cable structure

	Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228)
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Cores stranded in layers with short pitch length.
	Core identification	Cores black with white numerals, one core green-yellow.
	Outer jacket	Low-adhesion mixture on the basis of PUR, adapted to suit the requirements in energy chains® (following DIN VDE 0282 Part 10). Colour: Window grey (similar to RAL 7040)

Electrical information

	Nominal voltage	300/500 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

EPLAN download, configurators ► www.igus.eu/CF170D

1,040 types from stock no cutting costs ...
(up to 10 cuts of the same types)

Class 4.3.3 4 medium duty applications 3 travel distance up to 20 m 3 oil-resistant

Properties and approvals

	Oil	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Offshore	MUD-resistant following NEK 606 - status 2009
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following EN 50267-2-1
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	Lead free	Following 2011/65/EC (RoHS-II)
	DESINA	According to VDW, DESINA standardisation
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Temperature, from/to [°C]	Travel distance [m]	5 million		7.5 million		10 million	
		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	≤ 20	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
-15 / +70		10	12,5	11	13,5	12	14,5
+70 / +80		7,5	10	8,5	11	9,5	12

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For medium duty applications
- Almost unlimited resistance to oil
- Indoor and outdoor applications without direct sun radiation
- Unsupported travel distances and up to 20 m for gliding applications
- Machining units/machine tools, low temperature applications

... no minimum order quantity ...

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This series will be replaced by CF77.UL.D and CF890!



Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF170.05.12.D ¹¹⁾	12 G 0.5	8.5	64	129
CF170.05.18.D ¹¹⁾	18 G 0.5	10.0	96	186
CF170.05.30.D ¹¹⁾	30 G 0.5	12.5	150	296
CF170.07.03.D ¹¹⁾	3 G 0.75	6.0	24	49
CF170.07.05.D ¹¹⁾	5 G 0.75	7.0	40	81
CF170.07.07.D ¹¹⁾	7 G 0.75	8.0	56	106
CF170.07.12.D ¹¹⁾	12 G 0.75	9.5	93	164
CF170.07.18.D ¹¹⁾	18 G 0.75	11.5	143	242
CF170.07.20.D ¹¹⁾	20 G 0.75	12.0	152	260
CF170.10.03.D ¹¹⁾	3 G 1.0	6.0	32	58
CF170.10.04.D ¹¹⁾	4 G 1.0	6.5	43	76
CF170.10.05.D ¹¹⁾	5 G 1.0	7.5	53	92
CF170.10.07.D ¹¹⁾	7 G 1.0	8.5	74	124
CF170.10.12.D ¹¹⁾	12 G 1.0	10.5	121	197
CF170.10.18.D ¹¹⁾	18 G 1.0	12.5	184	291
CF170.10.25.D ¹¹⁾	25 G 1.0	14.5	264	397
CF170.15.03.D ¹¹⁾	3 G 1.5	7.0	48	85
CF170.15.04.D ¹¹⁾	4 G 1.5	7.5	61	106
CF170.15.05.D ¹¹⁾	5 G 1.5	8.0	80	119
CF170.15.07.D ^{11) 17)}	7 G 1.5	9.5	112	176
CF170.15.12.D ¹¹⁾	12 G 1.5	12.0	191	287
CF170.15.18.D ¹¹⁾	18 G 1.5	13.5	285	413
CF170.15.25.D ¹¹⁾	25 G 1.5	17.0	396	579
CF170.25.04.D ¹¹⁾	4 G 2.5	9.0	106	168
CF170.25.05.D ¹¹⁾	5 G 2.5	9.5	132	201
CF170.25.07.D ^{11) 17)}	7 G 2.5	12.5	185	288
CF170.40.04.D ¹¹⁾	4 G 4.0	11.0	169	258
CF170.60.04.D ¹¹⁾	4 G 6.0	13.0	253	393
CF170.100.04.D ¹¹⁾	4 G 10.0	17.5	423	604

¹¹⁾ Phase-out model (alternatives: CF.77.UL.D and CF890)

¹⁷⁾ Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m. When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.

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



Order example: CF170.10.05.D – in your desired length (0.5 m steps)
CF170.D chainflex® series .10 Code nominal cross section .05 Number of cores



Online order: www.chainflex.eu/CF170D



Delivery time 24h or today.
Delivery time means time until shipping of goods.



EPLAN download, configurators ► www.igus.eu/CF170D

... no minimum order quantity ...

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1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)



PUR Control cable | CF180

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- PVC-free/halogen-free
- Low-temperature-flexible
- Hydrolysis-resistant and microbe-resistant

This series will be replaced by CF78.UL and CF891!

Dynamic information

	Bending radius	e-chain® flexible	minimum 7.5 x d
		fixed	minimum 6 x d
			minimum 4 x d
	Temperature	e-chain® flexible	-25 °C to +80 °C
		flexible	-40 °C to +80 °C (following EN 60811-504)
		fixed	-50 °C to +80 °C (following DIN EN 50305)
	v max.	unsupported	3 m/s
		gliding	2 m/s
	a max.		20m/s²
	Travel distance		Unsupported travel distances and up to 20 m for gliding applications, Class 3

Cable structure

	Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228)
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Cores stranded in layers with short pitch length.
	Core identification	Cores black with white numerals, one core green-yellow.
	Inner jacket	PUR mixture adapted to suit the requirements in e-chains®.
	Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage approx. 55% linear, approx. 80% optical.
	Outer jacket	Low-adhesion mixture on the basis of PUR, adapted to suit the requirements in energy chains® (following DIN VDE 0282 Part 10). Colour: Window grey (similar to RAL 7040)

Electrical information

	Nominal voltage	300/500 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

Properties and approvals

	Oil	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Offshore	MUD-resistant following NEK 606 - status 2009
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 - status 1992)
	Halogen-free	Following EN 50267-2-1

1,040 types from stock no cutting costs ...
(up to 10 cuts of the same types)

Class 4.3.3 4 medium duty applications 3 travel distance up to 20 m 3 oil-resistant

	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	Lead free	Following 2011/65/EC (RoHS-II)
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes* Temperature, from/to [°C]	Travel distance [m]	5 million		7.5 million		10 million	
		R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m	R min. [factor x d] < 10 m	R min. [factor x d] ≥ 10 m
-25 / -15		10	17,5	11	18,5	12	19,5
-15 / +70	≤ 20	7,5	15	8,5	16	9,5	17
+70 / +80		10	17,5	11	18,5	12	19,5

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For medium duty applications
- Almost unlimited resistance to oil
- Indoor and outdoor applications without direct sun radiation
- Unsupported travel distances and up to 20 m for gliding applications
- Machining units/machine tools, low temperature applications

Delivery program Part no.	Number of cores and conductor nominal cross section [mm²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF180.05.18 ¹¹⁾	(18 G 0.5)C	12.0	134	213
CF180.07.03 ¹¹⁾	(3 G 0.75)C	7.5	44	99
CF180.07.05 ¹¹⁾	(5 G 0.75)C	8.5	68	125
CF180.07.12 ¹¹⁾	(12 G 0.75)C	11.5	134	228
CF180.07.18 ¹¹⁾	(18 G 0.75)C	13.0	193	317
CF180.10.05 ¹¹⁾	(5 G 1.0)C	9.5	83	141
CF180.10.18 ¹¹⁾	(18 G 1.0)C	14.5	262	380
CF180.15.03 ¹¹⁾	(3 G 1.5)C	8.5	74	102
CF180.15.04 ¹¹⁾	(4 G 1.5)C	9.0	94	141
CF180.15.07 ^{11) 17)}	(7 G 1.5)C	11.0	161	233
CF180.25.04 ¹¹⁾	(4 G 2.5)C	11.5	143	234
CF180.25.05 ¹¹⁾	(5 G 2.5)C	12.0	182	299
CF180.25.07 ^{11) 17)}	(7 G 2.5)C	14.0	248	361

¹¹⁾ Phase-out model (alternatives: CF78.UL and CF891)
¹⁷⁾ Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m. When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x** = without earth core

Order example: CF180.07.05 – in your desired length (0.5 m steps)
CF180 chainflex® series .07 Code nominal cross section .05 Number of cores

Online order: www.chainflex.eu/CF180

Delivery time 24h or today.
 Delivery time means time until shipping of goods.

... no minimum order quantity ...



PUR Control cable | CF77.UL.D

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

Dynamic information

	Bending radius	e-chain®	minimum 6.8 x d
		flexible	minimum 5 x d
		fixed	minimum 4 x d
	Temperature	e-chain®	-25 °C to +80 °C
		flexible	-40 °C to +80 °C (following EN 60811-504)
		fixed	-50 °C to +80 °C (following DIN EN 50305)
	v max.	unsupported	10 m/s
		gliding	5 m/s
	a max.	80 m/s ²	
	Travel distance	Unsupported travel distances and up to 100 m for gliding applications, Class 5	
	Torsion	± 180°, with 1 m cable length	

Cable structure

	Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228)
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Number of cores <12: Cores stranded in a layer with short pitch length. Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores < 0.5 mm²: Colour code in accordance with DIN 47100 Cores ≥ 0.5 mm²: Cores black with white numerals, one core green-yellow

Outer jacket Low-adhesion, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in e-chains® (following DIN VDE 0282 Part 10). Colour: Window grey (similar to RAL 7040)
CF77.UL.03.04.INI: Colour: Colza yellow (similar to RAL 1021)

Electrical information

	Nominal voltage	Number of cores < 12: 300/500 V Number of cores < 12 (0.25-0.34): 300/500 V Number of cores ≥ 12: 300/500 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

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1,040 types from stock no cutting costs ...
(up to 10 cuts of the same types)

Class 5.5.3 5 heavy duty applications 5 travel distance up to 100 m 3 oil-resistant

Properties and approvals

	UV-resistance	Medium
	Oil	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, CEI 20-35, FT1, VW-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following EN 50267-2-1
	UL/CSA	< 0.5 mm ² : Style 10493 and 20233, 300 V, 80 °C ≥ 0.5 mm ² : Style 11323 and 21223, 1000 V, 80 °C
	NFFPA	Following NFFPA 79-2012 chapter 12.9
	GL	Certified according to GL Type Testing – Certificate No.: 61 935-14 HH
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	CTP	Certified according to no. C-DE.PB49.B.00416
	CEI	Following CEI 20-35
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1. Outer jacket material complies with CF77.UL.05.12.D, tested by IPA according to standard 14644-1
	DESINA	According to VDW, DESINA standardisation
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*	Temperature, Travel distance from/to [°C] [m]	5 million		7.5 million		10 million	
		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	≤ 100	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
		8,5	10	9,5	11	10,5	12
		6,8	7,5	7,5	8,5	8,5	9,5
+70 / +80		7,5	10	9,5	11	10,5	12

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For heavy duty applications
- Almost unlimited resistance to oil
- Indoor and outdoor applications with average sun radiation
- Unsupported travel distances and up to 100 m for gliding applications
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

... no minimum order quantity ...

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Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.02.04.D	4 x 0.25	5.5	11	35
CF77.UL.03.04.INI	4 x 0.34	6.0	17	40
CF77.UL.05.04.D	4 G 0.5	6.0	22	44
CF77.UL.05.05.D	5 G 0.5	6.5	28	52
CF77.UL.05.07.D	7 G 0.5	7.5	41	80
CF77.UL.05.12.D	12 G 0.5	10.0	66	132
CF77.UL.05.18.D	18 G 0.5	12.0	99	184
CF77.UL.05.25.D	25 G 0.5	14.0	138	247
CF77.UL.05.30.D	30 G 0.5	15.0	165	325
CF77.UL.07.03.D	3 G 0.75	6.5	24	55
CF77.UL.07.04.D	4 G 0.75	7.0	32	64
CF77.UL.07.05.D	5 G 0.75	7.5	40	75
CF77.UL.07.07.D	7 G 0.75	8.5	56	106
CF77.UL.07.12.D	12 G 0.75	12.0	96	192
CF77.UL.07.18.D	18 G 0.75	13.5	143	260
CF77.UL.07.20.D	20 G 0.75	14.5	159	292
CF77.UL.07.25.D	25 G 0.75	16.0	198	368
CF77.UL.07.36.D	36 G 0.75	19.0	297	524
CF77.UL.07.42.D ^{1.7)}	42 G 0.75	21.0	365	604
CF77.UL.10.02.D	2 x 1.0	6.5	22	54
CF77.UL.10.03.D	3 G 1.0	6.5	32	65
CF77.UL.10.04.D	4 G 1.0	7.0	43	79
CF77.UL.10.05.D	5 G 1.0	8.0	53	97
CF77.UL.10.07.D	7 G 1.0	9.0	74	119
CF77.UL.10.12.D	12 G 1.0	12.5	127	234
CF77.UL.10.18.D	18 G 1.0	15.0	191	339
CF77.UL.10.25.D	25 G 1.0	17.5	264	452
CF77.UL.10.42.D	42 G 1.0	22.5	462	708

^{1.7)} Delivery time: 7 weeks
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.15.03.D	3 G 1.5	7.5	48	86
CF77.UL.15.04.D	4 G 1.5	8.0	64	105
CF77.UL.15.05.D	5 G 1.5	8.5	80	125
CF77.UL.15.07.D ^{1.7)}	7 G 1.5	10.5	111	174
CF77.UL.15.12.D	12 G 1.5	14.0	191	308
CF77.UL.15.18.D	18 G 1.5	17.0	286	477
CF77.UL.15.25.D	25 G 1.5	19.5	396	630
CF77.UL.15.36.D ^{1.7)}	36 G 1.5	23.5	594	891
CF77.UL.15.42.D ^{1.7)}	42 G 1.5	26.5	729	1040
CF77.UL.25.03.D	3 G 2.5	8.5	80	124
CF77.UL.25.04.D	4 G 2.5	9.5	106	155
CF77.UL.25.05.D	5 G 2.5	10.5	132	192
CF77.UL.25.07.D ^{1.7)}	7 G 2.5	12.5	185	270
CF77.UL.40.04.D ^{1.7)}	4 G 4.0	11.5	176	256
New CF77.UL.40.05.D	5 G 4.0	12.0	212	302
New CF77.UL.60.05.D	5 G 6.0	14.0	317	428
New CF77.UL.100.05.D ^{1.7)}	5 G 10.0	19.0	528	724
New CF77.UL.160.05.D	5 G 16.0	22.5	845	1098
New CF77.UL.250.05.D ^{1.7)}	5 G 25.0	28.0	1320	1635

^{1.7)} Delivery time: 7 weeks
^{1.7)} Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m.
 When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Order example: **CF77.UL.10.03.D** – in your desired length (0.5 m steps)
CF77.UL.D chainflex® series .10 Code nominal cross section .03 Number of cores

Online order: www.chainflex.eu/CF77

Delivery time 24h or today.
 Delivery time means time until shipping of goods.

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1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)



PUR Control cable | CF78.UL

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

Dynamic information

	Bending radius	e-chain®	minimum 6.8 x d
		flexible	minimum 5 x d
		fixed	minimum 4 x d
	Temperature	e-chain®	-25 °C to +80 °C
		flexible	-40 °C to +80 °C (following EN 60811-504)
		fixed	-50 °C to +80 °C (following DIN EN 50305)
	v max.	unsupported	10 m/s
		gliding	5 m/s
	a max.		80 m/s ²
	Travel distance	Unsupported travel distances and up to 100 m for gliding applications, Class 5	

Cable structure

	Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228)
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Number of cores <12: Cores stranded in a layer with short pitch length. Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores < 0.5 mm²: Colour code in accordance with DIN 47100 Cores ≥ 0.5 mm²: Cores black with white numerals, one core green-yellow
	Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
	Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage approx. 55% linear, approx. 80% optical.
	Outer jacket	Low-adhesion, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in e-chains® (following DIN VDE 0282 Part 10). Colour: Window grey (similar to RAL 7040)

Electrical information

	Nominal voltage	Number of cores < 12: 300/500 V Number of cores < 12 (0.25-0.34): 300/500 V Number of cores ≥ 12: 300/500 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

Class 5.5.3 5 heavy duty applications 5 travel distance up to 100 m 3 oil-resistant

Properties and approvals

	UV-resistance	Medium
	Oil	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, CEI 20-35, FT1, VW-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following EN 50267-2-1
	UL/CSA	< 0.5 mm ² : Style 10493 and 20233, 300 V, 80 °C ≥ 0.5 mm ² : Style 11323 and 21223, 1000 V, 80 °C
	NFFPA	Following NFFPA 79-2012 chapter 12.9
	GL	Certified according to GL Type Testing – Certificate No.: 61 935-14 HH
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	CTP	Certified according to no. C-DE.PB49.B.00416
	CEI	Following CEI 20-35
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1. Outer jacket material complies with CF77.UL.05.12.D, tested by IPA according to standard 14644-1
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*	Temperature, Travel distance from/to [°C]	5 million		7.5 million		10 million	
		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		< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
-15 / +70	≤ 100	8,5	10	9,5	11	10,5	12
+70 / +80		6,8	7,5	7,5	8,5	8,5	9,5
		7,5	10	9,5	11	10,5	12

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For heavy duty applications
- Almost unlimited resistance to oil
- Indoor and outdoor applications with average sun radiation
- Unsupported travel distances and up to 100 m for gliding applications
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

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... no minimum order quantity ...

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Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF78.UL.05.04	(4 G 0.5)C	8.0	40	79
CF78.UL.05.05	(5 G 0.5)C	8.0	48	94
CF78.UL.05.07	(7 G 0.5)C	9.5	62	123
CF78.UL.05.09	(9 G 0.5)C	11.0	81	148
CF78.UL.05.12	(12 G 0.5)C	12.5	97	207
CF78.UL.05.18	(18 G 0.5)C	14.5	156	257
CF78.UL.05.25	(25 G 0.5)C	16.0	180	366
CF78.UL.07.03	(3 G 0.75)C	8.0	44	79
CF78.UL.07.04	(4 G 0.75)C	8.5	52	99
CF78.UL.07.05	(5 G 0.75)C	9.5	64	108
CF78.UL.07.07	(7 G 0.75)C	10.5	87	146
CF78.UL.07.12	(12 G 0.75)C	13.5	145	252
CF78.UL.07.18	(18 G 0.75)C	15.5	207	367
CF78.UL.07.36	(36 G 0.75)C	22.0	416	728
CF78.UL.07.42 ^{1.4)}	(42 G 0.75)C	24.5	489	800
CF78.UL.10.03	(3 G 1.0)C	8.5	53	90
CF78.UL.10.04	(4 G 1.0)C	9.0	65	107
CF78.UL.10.05	(5 G 1.0)C	9.5	78	124
CF78.UL.10.07	(7 G 1.0)C	11.0	110	170
CF78.UL.10.12	(12 G 1.0)C	14.5	178	307
CF78.UL.10.18 ^{1.4)}	(18 G 1.0)C	17.0	256	424
CF78.UL.10.25	(25 G 1.0)C	20.0	347	567
CF78.UL.15.03	(3 G 1.5)C	9.5	72	133
CF78.UL.15.04	(4 G 1.5)C	10.0	90	139
CF78.UL.15.05	(5 G 1.5)C	10.5	115	166
CF78.UL.15.07 ^{1.7)}	(7 G 1.5)C	12.5	153	226
CF78.UL.15.12	(12 G 1.5)C	16.0	249	403
CF78.UL.15.18	(18 G 1.5)C	19.0	368	564
CF78.UL.15.25	(25 G 1.5)C	22.5	495	755
CF78.UL.15.36 ^{1.4)}	(36 G 1.5)C	26.5	715	1147
CF78.UL.15.42 ^{1.4)}	(42 G 1.5)C	29.5	884	1360


^{1.4)} Delivery time: 4 weeks
^{1.7)} Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m.
 When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.
 Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF78.UL.25.04	(4 G 2.5)C	11.5	148	212
CF78.UL.25.05	(5 G 2.5)C	12.5	177	247
CF78.UL.25.07 ^{1.7)}	(7 G 2.5)C	14.5	245	350
CF78.UL.40.04 ^{1.4)}	(4 G 4.0)C	14.0	217	342

^{1.4)} Delivery time: 4 weeks
^{1.7)} Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m.
 When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.
 Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

 **Order example: CF78.UL.15.18 – in your desired length (0.5 m steps) CF78.UL chainflex® series .15 Code nominal cross section .18 Number of cores**

 Online order: www.chainflex.eu/CF78

 Delivery time 24h or today.
 Delivery time means time until shipping of goods.

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

... no minimum order quantity ...

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1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)



PUR Control cable | CF2

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

Dynamic information

	Bending radius	e-chain®	minimum 5 x d
		flexible	minimum 4 x d
		fixed	minimum 3 x d
	Temperature	e-chain®	-20 °C to +80 °C
		flexible	-40 °C to +80 °C (following EN 60811-504)
		fixed	-50 °C to +80 °C (following DIN EN 50305)
	v max.	unsupported	10 m/s
		gliding	5 m/s
	a max.		80 m/s ²
	Travel distance	Unsupported travel distances and up to 100 m for gliding applications, Class 5	

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality TPE mixture (following DIN VDE 0207 part 4).
	Core stranding	Number of cores <12: Cores stranded in a layer with short pitch length. Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	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 approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in e-chains® (following DIN VDE 0282 Part 10). Colour: Anthracite grey (similar to RAL 7016)

Electrical information

	Nominal voltage	300/500 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)



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1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

Class 6.5.3 **6** extremely heavy duty applications **5** travel distance up to 100 m **3** oil-resistant

Properties and approvals

	UV-resistance	High
	Oil	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, CEI 20-35, FT1, VW-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	UL/CSA	Style 10493 and 20317, 300 V, 80 °C
	NFFPA	Following NFFPA 79-2012 chapter 12.9
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	CTP	Certified according to no. C-DE.PB49.B.00416
	CEI	Following CEI 20-35
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1. Outer jacket material complies with CF27.07.05.02.01.D, tested by IPA according to standard 14644-1
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*				5 million			7.5 million			10 million		
Temperature, from/to [°C]	v max. [m/s]	unsupported	gliding	a max. [m/s ²]	Travel distance [m]	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]	
-20 / -10					≤ 100	6,8	7,5	8,5				
-10 / +70	10	5		80		5	6,8	7,5				
+70 / +80						6,8	7,5	8,5				

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For extremely heavy duty applications
- Almost unlimited resistance to oil
- Indoor and outdoor applications
- Unsupported travel distances and up to 100 m for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, refrigerating sector

... no minimum order quantity ...

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IGUS® CHAINFLEX® CF2


Image exemplary.


Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF2.01.04	(4 x 0.14)C	6.5	17	40
CF2.01.08	(8 x 0.14)C	7.5	29	65
CF2.01.12	(12 x 0.14)C	9.5	49	101
CF2.01.18	(18 x 0.14)C	10.5	53	125
CF2.01.24 ³⁾	(24 x 0.14)C	11.5	65	135
CF2.01.36	(36 x 0.14)C	14.5	88	200
CF2.01.48	(48 x 0.14)C	16.5	135	310
CF2.02.04	(4 x 0.25)C	7.0	24	53
CF2.02.08	(8 x 0.25)C	8.5	41	83
CF2.02.18	(18 x 0.25)C	12.5	96	190
CF2.02.24 ³⁾	(24 x 0.25)C	13.5	120	220
CF2.02.48	(48 x 0.25)C	18.0	230	450

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 (star-quad with especially minimum crosstalk), these cables can virtually be used in all cases in which otherwise twisted-pair cables are required.

Note: The mentioned external 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 – in your desired length (0.5 m steps)**
CF2 chainflex® series .01 Code nominal cross section .04 Number of cores

 Online order: www.chainflex.eu/CF2

 Delivery time 24h or today.
Delivery time means time until shipping of goods.



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

... no minimum order quantity ...

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1,040 types from stock no cutting costs ...

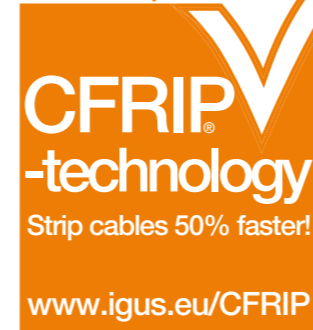
(up to 10 cuts of the same types)



TPE Control cable | CF9

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

Product improvement!



Dynamic information

	Bending radius	e-chain®	minimum 5 x d
		flexible	minimum 4 x d
		fixed	minimum 3 x d
	Temperature	e-chain®	-35 °C to +100 °C
		flexible	-50 °C to +100 °C (following EN 60811-504)
		fixed	-55 °C to +100 °C (following DIN EN 50305)
	v max.	unsupported	10 m/s
		gliding	6 m/s
	a max.		100m/s ²
	Travel distance	Unsupported travel distances and up to 400 m and more for gliding applications, Class 6	
	Torsion	± 90°, with 1 m cable length	

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Number of cores <12: Cores stranded in a layer with short pitch length. Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores < 0.75 mm²: Colour code in accordance with DIN 47100 Cores ≥ 0.75 mm²: Cores black with white numerals, one core green-yellow 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: (0.34 mm²): violet/red/grey/red-blue, green/grey-pink/white-green/white-yellow, white-grey/black/yellow-brown/brown-green, white/yellow/pink/grey-brown (0.75 mm²): blue/green-yellow/brown
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)
	CFRIP®	Strip cables 50% faster: The tear strip is in the outer jacket Video ▶ www.igus.eu/CFRIP

Class 7.6.4 7 heaviest duty applications 6 travel distance up to 400 m and more 4 oil-resistant

Electrical information

	Nominal voltage	300/500 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

Properties and approvals

	UV-resistance	High
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following EN 50267-2-1
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1, material/cable tested by IPA according to ISO standard 14644-1
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Temperature, from/to [°C]	Double strokes*		Travel distance [m]	5 million	7.5 million	10 million
	v max. [m/s] unsupported	a max. [m/s ²] gliding		R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35 / -25			> 400	6,8	7,5	8,5
-25 / +90	10	6	> 400	5	6	7
+90 / +100			> 400	6,8	7,5	8,5

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For extremely heavy duty applications
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- Unsupported travel distances and up to 400 m and more for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications



chainflex® CF9 for outdoor crane systems. e-chain®: Series E4/00

Test data ▶ Page 58

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

... no minimum order quantity ...

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Strip cables 50 % faster



Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.02.02	2 x 0.25	4.5	6	18
CF9.02.03.INI	3 x 0.25	4.5	8	22
CF9.02.06	6 x 0.25	5.5	16	37
CF9.02.07	7 x 0.25	6.5	19	44
CF9.02.08	8 x 0.25	6.5	22	50
CF9.02.12	12 x 0.25	8.0	32	73
CF9.02.18 ^{1.4)}	18 x 0.25	9.5	48	105
CF9.02.20	20 x 0.25	9.5	53	111
CF9.03.04.INI	4 x 0.34	5.0	15	32
CF9.03.05.INI	5 x 0.34	5.5	18	38
CF9.03.06	6 x 0.34	6.0	22	45
CF9.03.08	8 x 0.34	7.0	29	59
CF9.03.16.07.03.INI	4x(4x0.34)+(3x0.75)	11.0	82	159
CF9.05.02	2 x 0.5	5.0	11	26
CF9.05.03	3 x 0.5	5.0	16	32
CF9.05.04	4 x 0.5	5.5	22	40
CF9.05.05	5 x 0.5	6.0	27	48
CF9.05.07	7 x 0.5	7.0	37	66
CF9.05.12	12 x 0.5	10.0	64	120
CF9.05.18	18 x 0.5	11.5	96	177
CF9.05.25	25 x 0.5	13.0	132	236
CF9.05.36	36 x 0.5	15.5	191	334
CF9.07.04 ^{1.4)}	4 G 0.75	6.0	32	55
CF9.07.05	5 G 0.75	6.5	40	68
CF9.07.07	7 G 0.75	8.0	56	94
CF9.07.12	12 G 0.75	11.0	96	170
CF9.07.20	20 G 0.75	13.5	159	267
CF9.07.25	25 G 0.75	14.5	198	329
CF9.10.03	3 G 1.0	6.0	32	54
CF9.10.04	4 G 1.0	6.5	43	69
CF9.10.05	5 G 1.0	7.5	53	84
CF9.10.12	12 G 1.0	12.0	127	214
CF9.10.18	18 G 1.0	14.5	191	314
CF9.10.25	25 G 1.0	17.0	264	450

^{1.4)} Delivery time: 4 weeks
 Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.15.02	2 x 1.5	6.5	32	60
CF9.15.04	4 G 1.5	7.5	64	90
CF9.15.05	5 G 1.5	8.0	81	110
CF9.15.07 ¹⁷⁾	7 G 1.5	9.5	114	151
CF9.15.12	12 G 1.5	13.5	191	290
CF9.15.18	18 G 1.5	16.5	286	413
CF9.15.25	25 G 1.5	20.0	396	632
CF9.15.36	36 G 1.5	23.5	571	839
CF9.25.04	4 G 2.5	9.0	106	152
CF9.25.05	5 G 2.5	10.0	132	197
CF9.25.07 ¹⁷⁾	7 G 2.5	12.0	187	245
CF9.25.12	12 G 2.5	17.5	317	515
CF9.25.16	16 G 2.5	19.5	423	687
CF9.25.18 ⁷⁾	18 G 2.5	23.0	476	830
CF9.25.25	25 G 2.5	24.5	660	1059
CF9.40.04	4 G 4.0	10.5	170	229
CF9.60.04	4 G 6.0	12.5	254	332
CF9.60.05	5 G 6.0	13.5	317	410
CF9.100.04	4 G 10.0	16.5	423	580
CF9.160.04	4 G 16.0	18.0	528	719
CF9.350.04	4 G 35.0	28.0	1479	1769

⁷⁾ Nominal voltage 600/1000 V ⁸⁾ Nominal voltage 450/750 V
¹⁷⁾ Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m.
 When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.
 Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Order example: **CF9.25.04** – in your desired length (0.5 m steps)
CF9 chainflex® series **.25** Code nominal cross section **.04** Number of cores

Online order: www.chainflex.eu/CF9

Delivery time 24h or today.
 Delivery time means time until shipping of goods.

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

... no minimum order quantity ...

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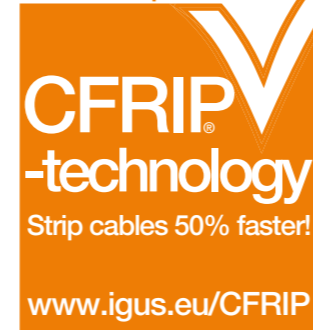
(up to 10 cuts of the same types)



TPE Control cable | CF10

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

Product improvement!



Dynamic information

	Bending radius	e-chain®	minimum 5 x d
		flexible	minimum 4 x d
		fixed	minimum 3 x d
	Temperature	e-chain®	-35 °C to +100 °C
		flexible	-50 °C to +100 °C (following EN 60811-504)
		fixed	-55 °C to +100 °C (following DIN EN 50305)
	v max.	unsupported	10 m/s
		gliding	6 m/s
	a max.		100m/s ²
	Travel distance	Unsupported travel distances and up to 400 m and more for gliding applications, Class 6	

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Number of cores <12: Cores stranded in a layer with short pitch length. Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores < 0.75 mm²: Colour code in accordance with DIN 47100 Cores ≥ 0.75 mm²: Cores black with white numerals, one core green-yellow CF10.03.05.INI: brown, blue, black, white, green-yellow TPE mixture adapted to suit the requirements in e-chains®.
	Inner jacket	
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)
	CFRIP®	Strip cables 50% faster: The tear strip is in the inner jacket Video ► www.igus.eu/CFRIP

Electrical information

	Nominal voltage	300/500 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

Class 7.6.4 7 heaviest duty applications 6 travel distance up to 400 m and more 4 oil-resistant

Properties and approvals

	UV-resistance	High
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following EN 50267-2-1
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*				5 million	7.5 million	10 million
Temperature, from/to [°C]	v max. [m/s] unsupported	a max. [m/s ²] gliding	Travel distance [m]	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	10	6	> 400	5	6	7
+90 / +100				6,8	7,5	8,5

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For extremely heavy duty applications
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- Unsupported travel distances and up to 400 m and more for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications



Control cable chainflex® CF10 in storage and retrieval units for high-bay warehouses. e-chain®: System E2 medium

... no minimum order quantity ...

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1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)



Strip cables 50 % faster

IGUS® CHAINFLEX® CF10

Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.01.12	(12 x 0.14)C	8.0	40	82
CF10.01.18	(18 x 0.14)C	9.5	68	127
CF10.02.04	(4 x 0.25)C	6.5	26	52
CF10.02.08	(8 x 0.25)C	8.0	42	81
CF10.02.12	(12 x 0.25)C	9.5	70	127
CF10.02.25	(25 x 0.25)C	12.5	119	225
CF10.03.05.INI	(5 x 0.34)C	7.0	36	65
CF10.05.04	(4 x 0.5)C	7.0	39	69
CF10.05.05	(5 x 0.5)C	7.5	46	79
CF10.05.07	(7 x 0.5)C	8.5	60	103
CF10.05.12	(12 x 0.5)C	12.0	113	199
CF10.05.18	(18 x 0.5)C	13.5	153	263
CF10.05.25	(25 x 0.5)C	15.0	198	335
CF10.07.04	(4 G 0.75)C	7.5	51	87
CF10.07.05	(5 G 0.75)C	8.0	61	99
CF10.07.07	(7 G 0.75)C	9.5	94	145
CF10.07.12	(12 G 0.75)C	12.5	146	246
CF10.07.20	(20 G 0.75)C	15.0	226	368
CF10.07.25	(25 G 0.75)C	16.5	270	450
CF10.10.02	(2 x 1.0)C	7.5	39	72
CF10.10.03	(3 G 1.0)C	7.5	51	83
CF10.10.04	(4 G 1.0)C	8.0	64	103
CF10.10.05	(5 G 1.0)C	8.5	74	120
CF10.10.07	(7 G 1.0)C	10.0	116	179
CF10.10.12	(12 G 1.0)C	13.5	186	302
CF10.10.18	(18 G 1.0)C	16.0	262	415
CF10.10.25	(25 G 1.0)C	18.0	344	550

¹¹⁾ Phase-out model

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with green-yellow earth core x= without earth core

* New since 11/2013


Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.15.04	(4 G 1.5)C	9.0	99	145
CF10.15.05	(5 G 1.5)C	10.0	119	176
CF10.15.07 ¹⁷⁾	(7 G 1.5)C	11.5	159	235
CF10.15.12	(12 G 1.5)C	15.5	259	391
CF10.15.18	(18 G 1.5)C	20.0	398	624
CF10.25.04	(4 G 2.5)C	11.5	149	224
CF10.25.07 ¹⁷⁾	(7 G 2.5)C	13.5	244	364
CF10.25.12	(12 G 2.5)C	19.0	411	653
CF10.40.04	(4 G 4.0)C	12.5	222	317
CF10.40.05	(5 G 4.0)C	13.5	271	386

¹⁷⁾ Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m.


When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

G = with green-yellow earth core x= without earth core

 **Order example: CF10.10.12 – in your desired length (0.5 m steps)**
CF10 chainflex® series .10 Code nominal cross section .12 Number of cores

 Online order: www.chainflex.eu/CF10

 Delivery time 24h or today.
Delivery time means time until shipping of goods.

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

... no minimum order quantity ...

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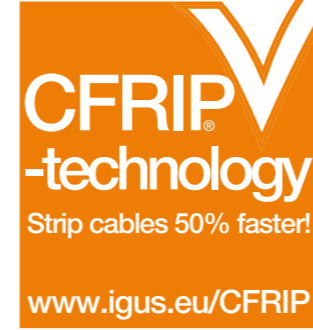
1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)



TPE Control cable | CF9.UL

Product improvement!



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

Dynamic information

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

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Number of cores <12: Cores stranded in a layer with short pitch length. Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores < 0.75 mm²: Colour code in accordance with DIN 47100 Cores ≥ 0.75 mm²: Cores black with white numerals, one core green-yellow

	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in e-chains®. Colour: Slate grey (similar to RAL 7015) - starting from manufacturing date 11/2012
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CFRIP®
Strip cables 50% faster: The tear strip is in the outer jacket
Video ▶ www.igus.eu/CFRIP

EPLAN download, configurators ▶ www.igus.eu/CF9UL

1,040 types from stock no cutting costs ...
(up to 10 cuts of the same types)

Class 6.6.4 6 extremely heavy duty applications 6 travel distance up to 400 m and more 4 oil-resistant

Electrical information

	Nominal voltage	300/500 V (following DIN VDE 0245)
	Testing voltage	2000 V (following DIN EN 50396)

Properties and approvals

	UV-resistance	High
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
	Flame-retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	UL/CSA	< 0.5 mm²: Style 10479 and 21529, 300 V, 90 °C ≥ 0.5 mm²: Style 10258 and 21387, 1000 V, 90 °C (starting from manufacturing date 11/2012)
	NFFPA	Following NFFPA 79-2012 chapter 12.9
	GL	Certified according to GL type testing – Certificate no.: 61 935-14 HH
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	CTP	Certified according to no. C-DE.PB49.B.00416
	CEI	Following CEI 20-35
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1. Outer jacket material complies with CF34.UL.25.04.D, tested by IPA according to standard 14644-1
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*	5 million 7.5 million 10 million						
	Temperature, from/to [°C]	v max. [m/s] unsupported	a max. [m/s ²] gliding	Travel distance [m]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35 / -25				> 400	6,8	7,5	10
-25 / +90	10	6	100		5	6	7
+90 / +100					6,8	7,5	10

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For extremely heavy duty applications
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- Unsupported travel distances and up to 400 m and more for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

... no minimum order quantity ...

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Strip cables 50 % faster

IGUS® CHAINFLEX® CF9.UL

Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.UL.02.02	2 x 0.25	5.0	6	28
CF9.UL.02.03.INI	3 x 0.25	5.5	8	32
CF9.UL.02.04	4 x 0.25	5.5	11	38
CF9.UL.02.06	6 x 0.25	6.5	16	49
CF9.UL.02.07 ^{1.4)}	7 x 0.25	7.0	19	59
CF9.UL.02.08	8 x 0.25	7.5	22	64
CF9.UL.02.12	12 x 0.25	8.5	32	94
CF9.UL.03.04.INI	4 x 0.34	6.0	15	43
CF9.UL.03.05.INI ^{1.4)}	5 x 0.34	6.5	18	53
CF9.UL.03.06	6 x 0.34	6.5	22	57
CF9.UL.03.08	8 x 0.34	7.5	29	76
CF9.UL.05.02	2 x 0.5	6.0	11	43
CF9.UL.05.03 ^{1.4)}	3 x 0.5	6.5	16	52
CF9.UL.05.04	4 x 0.5	7.0	22	60
CF9.UL.05.05	5 x 0.5	7.5	27	70
CF9.UL.05.07	7 x 0.5	8.5	37	96
CF9.UL.05.12	12 x 0.5	11.5	64	170
CF9.UL.05.18	18 x 0.5	13.5	96	239
CF9.UL.05.25	25 x 0.5	14.5	132	296
CF9.UL.05.36 ^{1.4)}	36 x 0.5	18.5	191	460
CF9.UL.07.05	5 G 0.75	8.0	40	96
CF9.UL.07.07	7 G 0.75	9.5	56	133
CF9.UL.07.12	12 G 0.75	13.0	96	234
CF9.UL.07.20 ^{1.4)}	20 G 0.75	15.5	159	349
CF9.UL.07.25	25 G 0.75	16.5	198	421
CF9.UL.10.03	3 G 1.0	7.5	32	78
CF9.UL.10.04	4 G 1.0	8.0	43	97
CF9.UL.10.05 ^{1.4)}	5 G 1.0	9.0	53	116
CF9.UL.10.12	12 G 1.0	14.0	127	283
CF9.UL.10.18	18 G 1.0	16.5	191	406
CF9.UL.10.25	25 G 1.0	18.5	264	541

^{1.4)} Delivery time: 4 weeks
 Note: The mentioned external 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/CF9UL

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.UL.15.04	4 G 1.5	9.0	64	126
CF9.UL.15.05	5 G 1.5	9.5	80	150
CF9.UL.15.07 ¹⁷⁾	7 G 1.5	11.5	111	206
CF9.UL.15.12	12 G 1.5	16.0	191	384
CF9.UL.15.18	18 G 1.5	19.0	286	553
CF9.UL.15.25	25 G 1.5	22.0	396	756
CF9.UL.25.04	4 G 2.5	10.5	106	194
CF9.UL.25.05	5 G 2.5	11.0	132	239
CF9.UL.25.07 ^{1.4) 17)}	7 G 2.5	13.5	185	328
CF9.UL.25.12	12 G 2.5	19.0	317	620
CF9.UL.25.18	18 G 2.5	24.0	476	917
CF9.UL.25.25	25 G 2.5	27.0	660	1199
CF9.UL.40.04	4 G 4.0	12.0	169	271
CF9.UL.60.04	4 G 6.0	14.0	254	380

^{1.4)} Delivery time: 4 weeks
¹⁷⁾ Using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" it is essential: bending radius 17 x d with travel distance ≥ 5 m.
 When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.
 Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core



Order example: CF9.UL.02.12 – in your desired length (0.5 m steps)
 CF9.UL chainflex® series .02 Code nominal cross section .12 Number of cores



Online order: www.chainflex.eu/CF9UL



Delivery time 24h or today.
 Delivery time means time until shipping of goods.



igus® chainflex® cables in a rafting channel application.

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TPE Control cable | CF10.UL

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

Dynamic information

	Bending radius	e-chain®	minimum 5 x d
		flexible	minimum 4 x d
		fixed	minimum 3 x d
	Temperature	e-chain®	-35 °C to +100 °C
		flexible	-45 °C to +100 °C (following EN 60811-504)
		fixed	-50 °C to +100 °C (following DIN EN 50305)
	v max.	unsupported	10 m/s
		gliding	6 m/s
	a max.		100m/s ²
	Travel distance	Unsupported travel distances and up to 400 m and more for gliding applications, Class 6	

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Number of cores <12: Cores stranded in a layer with short pitch length. Number of cores ≥ 12: Cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores < 0.75 mm²: Colour code in accordance with DIN 47100 Cores ≥ 0.75 mm²: Cores black with white numerals, one core 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 approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in e-chains®. Colour: Slate grey (similar to RAL 7015) - starting from manufacturing date 11/2012
	CFRIP®	Strip cables 50% faster: The tear strip is in the inner jacket Video ► www.igus.eu/CFRIP



EPLAN download, configurators ► www.igus.eu/CF10UL

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

Product improvement!

CFRIP
-technology

Strip cables 50% faster!

www.igus.eu/CFRIP

Class 6.6.4

6 extremely heavy duty applications 6 travel distance up to 400 m and more 4 oil-resistant

Electrical information

Nominal voltage 300/500 V (following DIN VDE 0245)

Testing voltage 2000 V (following DIN EN 50396)

Properties and approvals

UV-resistance High

Oil Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

Flame-retardant According to IEC 60332-1-2, CEI 20-35, FT1, VW-1

Silicon-free Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)

UL/CSA
< 0.5 mm²: Style 10479 and 21529, 300 V, 90 °C
≥ 0.5 mm²: Style 10258 and 21387, 1000 V, 90 °C (from manufacturing date 11/2012)

NFFPA Following NFFPA 79-2012 chapter 12.9

GL Certified according to GL type testing – Certificate no.: 61 935-14 HH

EAC Certified according to no. TC RU C-DE.ME77.B.01254

CTP Certified according to no. C-DE.PB49.B.00416

CEI Following CEI 20-35

Lead free Following 2011/65/EC (RoHS-II)

Clean room According to ISO Class 1. Outer jacket material complies with CF34.UL.25.04.D, tested by IPA according to standard 14644-1

CE Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*	5 million 7.5 million 10 million						
	Temperature, from/to [°C]	v max. [m/s] unsupported	a max. [m/s ²] gliding	Travel distance [m]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35 / -25				> 400	6,8	7,5	8,5
-25 / +90	10	6	100		5	6	7
+90 / +100					6,8	7,5	8,5

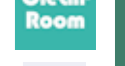
* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For extremely heavy duty applications
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- Unsupported travel distances and up to 400 m and more for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

... no minimum order quantity ...

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Strip cables 50 % faster



Image exemplary.

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.UL.02.04	(4 x 0.25)C	7.0	28	69
CF10.UL.02.08	(8 x 0.25)C	9.0	41	104
CF10.UL.02.12	(12 x 0.25)C	10.5	70	158
CF10.UL.02.24	(24 x 0.25)C	13.0	120	255
CF10.UL.05.04	(4 x 0.5)C	8.5	41	99
CF10.UL.05.05 ^{1.6)}	(5 x 0.5)C	9.0	48	112
CF10.UL.05.12	(12 x 0.5)C	13.0	117	259
CF10.UL.05.18 ^{1.6)}	(18 x 0.5)C	15.0	161	349
CF10.UL.05.25	(25 x 0.5)C	16.5	204	420
CF10.UL.07.03	(3 G 0.75)C	8.5	44	106
CF10.UL.07.04	(4 G 0.75)C	9.0	54	123
CF10.UL.07.05	(5 G 0.75)C	10.0	75	156
CF10.UL.07.07	(7 G 0.75)C	11.0	99	203
CF10.UL.07.12	(12 G 0.75)C	14.5	158	342
CF10.UL.07.20 ^{1.6)}	(20 G 0.75)C	17.0	235	482
CF10.UL.07.25	(25 G 0.75)C	19.0	307	618
CF10.UL.10.02 ^{1.6)}	(2 x 1.0)C	8.5	42	105
CF10.UL.10.03 ^{1.6)}	(3 G 1.0)C	9.0	53	121
CF10.UL.10.04	(4 G 1.0)C	10.0	79	158
CF10.UL.10.05 ^{1.6)}	(5 G 1.0)C	10.5	92	181
CF10.UL.10.07	(7 G 1.0)C	12.0	120	238
CF10.UL.10.12	(12 G 1.0)C	15.0	189	380
CF10.UL.10.18 ^{1.6)}	(18 G 1.0)C	19.0	302	586
CF10.UL.10.25	(25 G 1.0)C	21.5	390	772
CF10.UL.15.04	(4 G 1.5)C	10.5	104	194
CF10.UL.15.05	(5 G 1.5)C	11.5	124	228
CF10.UL.15.07 ¹⁷⁾	(7 G 1.5)C	13.0	164	299
CF10.UL.15.12	(12 G 1.5)C	18.0	268	523
CF10.UL.15.18	(18 G 1.5)C	21.5	413	771
CF10.UL.25.04	(4 G 2.5)C	12.0	154	276
CF10.UL.25.07 ¹⁷⁾	(7 G 2.5)C	15.0	250	441
CF10.UL.25.12	(12 G 2.5)C	21.5	445	845
CF10.UL.40.04	(4 G 4.0)C	13.5	227	376

^{1.6)} Delivery time: 6 weeks
¹⁷⁾ Using the cables with *7 G 1.5 mm² and *7 G 2.5 mm² it is essential: bending radius 17 x d with travel distance ≥ 5 m.
 When the travel distance is not less than 5 m, a bending radius not less than 17 x d has to be used.
 Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
 G = with green-yellow earth core x= without earth core

Order example: **CF10.UL.10.02** – in your desired length (0.5 m steps)
CF10.UL chainflex® series **.10** Code nominal cross section **.02** Number of cores

Online order: www.chainflex.eu/CF10UL

Delivery time 24h or today.
 Delivery time means time until shipping of goods.



The special cable structure of chainflex® CF10.UL guarantees quality – also in the igus® harnessing.

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1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)



TPE Control cable | CF98

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

Dynamic information

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

Cable structure

	Conductor	Conductor consisting of a highly flexible special alloy.
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Cores stranded in one 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 mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in e-chains®.

Electrical information

	Nominal voltage	300/300 V
	Testing voltage	1500 V

Properties and approvals

	UV-resistance	High
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

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1,040 types from stock no cutting costs ...
(up to 10 cuts of the same types)

Class 7.5.4 7 heaviest duty applications 5 travel distance up to 100 m 4 oil-resistant

	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following EN 50267-2-1
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*	Temperature, from/to [°C]	v max. [m/s]		a max. [m/s ²]	Travel distance [m]	5 million	7.5 million	10 million
		unsupported	gliding			R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
	-35 / -25				≤ 100	5	5	5
	-25 / +80	10	6	100		4	4	4
	+80 / +90					5	5	5

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For extremely heavy duty applications with 4 x d
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- Especially for short, very fast applications with small radii and tight design space, Class 4
- Pick and place machines, automatic doors, clean room, very quick handling

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF98.01.02	2 x 0.14	4	4	11
CF98.01.03 ^{1.10)}	3 x 0.14	4.5	6	14
CF98.01.04	4 x 0.14	5	9	16
CF98.01.07 ^{1.10)}	7 x 0.14	6	14	21
CF98.01.08	8 x 0.14	6.5	16	24
CF98.02.03.INI	3 x 0.25	5	12	25
CF98.02.04	4 x 0.25	5.5	16	30
CF98.02.07	7 x 0.25	6.5	26	53
CF98.02.08	8 x 0.25	7	30	60
CF98.03.03 ^{1.10)}	3 x 0.34	5	14	28
CF98.03.04.INI	4 x 0.34	5.5	19	35
CF98.03.07	7 x 0.34	7	32	55
CF98.03.08 ^{1.10)}	8 x 0.34	7.5	38	63
CF98.05.04	4 x 0.5	6	31	40

^{1.10)} Delivery time: 10 weeks
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core x = without earth core

Test data ► Page 40

... no minimum order quantity ...

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TPE Control cable | CF99

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

Dynamic information

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

Cable structure

	Conductor	Conductor consisting of a highly flexible special alloy.
	Core insulation	Mechanically high-quality TPE mixture.
	Core stranding	Cores stranded in one layer with especially short pitch length.
	Core identification	Colour code in accordance with DIN 47100 CF99.02.03.INI: brown, blue, black CF99.03.04.INI: brown, blue, black, white
	Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
	Overall shield	Highly flexible, alloyed special shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in e-chains®.

Electrical information

	Nominal voltage	300/300 V
	Testing voltage	1500 V

Properties and approvals

	UV-resistance	High
	Oil	Oil-resistant (following DIN EN 60811-2-1), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

EPLAN download, configurators ► www.igus.eu/CF99

1,040 types from stock no cutting costs ...

(up to 10 cuts of the same types)

Class 7.5.4 7 heaviest duty applications 5 travel distance up to 100 m 4 oil-resistant

	Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following EN 50267-2-1
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	Lead free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1
	CE	Following 2006/95/EC

Guaranteed lifetime according to guarantee conditions (Page 22-25)

Double strokes*	Temperature, from/to [°C]	v max. [m/s]		a max. [m/s ²]	Travel distance [m]	5 million	7.5 million	10 million
		unsupported	gliding			R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
	-35 / -25				≤ 100	5	5	5
	-25 / +80	10	6	100		4	4	4
	+80 / +90					5	5	5

* Higher number of double strokes possible - please ask for your individual calculation.

Typical application areas

- For extremely heavy duty applications with 4 x d
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- Especially for short, very fast applications with small radii and tight design space, Class 4
- Pick and place machines, automatic doors, clean room, very quick handling

Delivery program Part no.	Number of cores and conductor nominal cross section [mm ²]	External diameter max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF99.01.02	(2 x 0.14)C	5.5	14	33
CF99.01.03 ^{1.11)}	(3 x 0.14)C	6.0	17	37
CF99.01.04	(4 x 0.14)C	6.0	21	43
CF99.01.07 ^{1.11)}	(7 x 0.14)C	7.5	32	62
CF99.01.08	(8 x 0.14)C	8.0	36	69
CF99.02.03.INI ^{1.11)}	(3 x 0.25)C	6.5	25	48
CF99.02.04	(4 x 0.25)C	6.5	30	56
CF99.02.07	(7 x 0.25)C	8.0	48	85
CF99.02.08 ^{1.11)}	(8 x 0.25)C	8.5	54	93
CF99.03.03 ^{1.11)}	(3 x 0.34)C	6.5	27	51
CF99.03.04.INI ^{1.11)}	(4 x 0.34)C	7.0	35	62
CF99.03.08	(8 x 0.34)C	9.0	64	105

^{1.11)} Delivery time: 11 weeks

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

... no minimum order quantity ...

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