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cables



Control cables

chainflex® type

chainflex® cable	Jacket	Shield	Minimum bending radius, moved [factor x d]	Temperatur moved 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											
CF130.UL	PVC		7,5-10	-5/ +70			✔	3	2	20	58
CF140.UL	PVC	✔	7,5-15	-5/ +70				3	2	20	62
CF5	PVC		6,8-7,5	-5/ +70		✔	✔	10	5	80	66
CF6	PVC	✔	6,8-7,5	-5/ +70		✔		10	5	80	70
CF170.D	PUR		7,5-10	-35/ +80		✔		3	2	20	74
CF180	PUR	✔	7,5-15	-35/ +80		✔		3	2	20	76
CF77.UL.D	PUR		6,8-7,5	-35/ +80		✔	✔	10	5	80	78
CF78.UL	PUR	✔	6,8-7,5	-35/ +80		✔		10	5	80	82
CF2	PUR	✔	5	-20/ +80		✔		10	5	80	86
CF9	TPE		5	-35/ +100		✔	✔	10	6	100	90
CF10	TPE	✔	5	-35/ +100		✔		10	6	100	94
CF9.UL	TPE		5	-35/ +100		✔	✔	10	6	100	98
CF10.UL	TPE	✔	5	-35/ +100		✔		10	6	100	102
CF98	TPE		4	-35/ +90		✔	✔	10	6	100	106
CF99	TPE	✔	4	-35/ +90		✔		10	6	100	108

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PVC Control cable | CF130.UL

- for medium load requirements
- PVC outer jacket
- flame-retardant



Image exemplary.

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 gray (similar to RAL 7001)
T/R moved	-5 °C to +70 °C following DIN EN 60811, part 1-4 chapter 8.2. +5 °C to +70 °C for use in energy chains® with > 50.000 cycles. Minimum bending radius 7,5 x d with < 10 m travel distance, minimum bending radius 10 x d with ≥ 10 m travel distance.
T/R fixed	-20 °C to +70 °C, minimum bending radius 5 x d
v max. unsupported/gliding	3 m/s, 2 m/s
a max.	20 m/s²
Travel distance	Freely suspended travel distances, but also for gliding applications up to 50 m, Class 2
Torsion	± 90 °, with 1 m cable length
Nominal voltage	**Number of cores < 12:** 300/500 V **Number of cores < 12 (0,25-0,34):** 300/300 V **Number of cores ≥ 12:** 300/300 V (following DIN VDE 0245).
Testing voltage	2000 V (following DIN VDE 0281-2).
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).

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950 types from stock no cutting costs ...

(for up to 10 cuts of the same type)

CF130.UL
PVC
7,5-10xd

Class 4.2.1 (4 medium load requirements 2 travel distance up to 50 m 1 no oil-resistance)

UL/CSA	Style 10493 and 20200, 300 V, 60 °C
NFPA	Following NFPA 79-2012 chapter 12.9 (starting from manufacturing date 9/2011)
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (RoHS-II)

Typical application area

- for medium load requirements
- without influence of oil
- preferably indoor applications
- especially for freely suspended travel distances, but also for gliding applications up to 50 m
- Wood/stone processing, packaging industry, supply system, handling, adjusting equipment



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

... no minimum order quantity ...

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PVC Control cable | CF130.UL

Class 4.2.1 (4 medium load requirements 2 travel distance up to 50 m 1 no oil-resistance)

CF130.UL
PVC
7,5-10xd



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]	
CF130.02.03.UL	3 x 0,25	4,5	8	24	
CF130.02.04.UL	4 x 0,25	5,5	10	37	
CF130.02.06.UL	6 x 0,25	6,0	15	47	
CF130.02.07.UL	7 x 0,25	6,5	18	45	
CF130.02.12.UL	12 x 0,25	8,5	31	94	
CF130.02.20.UL	20 x 0,25	10,5	49	143	
CF130.02.25.UL	25 x 0,25	11,5	63	151	
CF130.02.30.UL	30 x 0,25	12,5	72	185	
CF130.03.02.UL	2 x 0,34	4,5	7	33	
CF130.03.05.UL	5 x 0,34	5,5	17	48	
CF130.05.02.UL	2 x 0,5	5,5	10	40	
CF130.05.03.UL	3 G 0,5	6,0	14	55	
CF130.05.04.UL	4 G 0,5	6,5	19	60	
CF130.05.05.UL	5 G 0,5	7,0	24	65	
CF130.05.07.UL	7 G 0,5	8,0	34	100	
CF130.05.12.UL	12 G 0,5	9,5	55	116	
CF130.05.18.UL	18 G 0,5	12,0	90	158	
CF130.05.25.UL	25 G 0,5	13,5	126	222	
CF130.07.02.UL	2 x 0,75	6,0	15	50	
CF130.07.03.UL	3 G 0,75	6,5	22	60	
CF130.07.04.UL	4 G 0,75	7,0	29	80	
CF130.07.05.UL	5 G 0,75	7,5	36	90	
CF130.07.07.UL	7 G 0,75	8,5	50	130	
CF130.07.12.UL	12 G 0,75	10,5	81	149	
CF130.07.18.UL	18 G 0,75	13,0	121	214	
CF130.07.25.UL	25 G 0,75	15,5	167	303	
CF130.07.36.UL[1]	36 G 0,75	19,0	284	521	New*
CF130.07.42.UL[1]	42 G 0,75	20,5	331	598	New*
CF130.10.02.UL	2 x 1,0	6,0	19	50	
CF130.10.03.UL	3 G 1,0	7,0	29	75	
CF130.10.04.UL	4 G 1,0	7,5	39	90	
CF130.10.05.UL	5 G 1,0	8,0	48	110	
CF130.10.07.UL	7 G 1,0	9,0	68	170	
CF130.10.12.UL	12 G 1,0	11,5	108	185	
CF130.10.18.UL	18 G 1,0	14,0	161	263	
CF130.10.25.UL	25 G 1,0	17,0	224	371	

(1) Delivery time upon inquiry
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 in this catalog.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]	
CF130.15.02.UL	2 x 1,5	7,5	29	70	
CF130.15.03.UL	3 G 1,5	7,0	44	90	
CF130.15.04.UL	4 G 1,5	8,0	58	120	
CF130.15.05.UL	5 G 1,5	8,5	72	140	
CF130.15.07.UL[17]	7 G 1,5	10,5	101	210	
CF130.15.12.UL	12 G 1,5	13,0	162	263	
CF130.15.18.UL	18 G 1,5	16,5	242	386	
CF130.15.25.UL	25 G 1,5	19,5	350	541	
CF130.15.36.UL[1]	36 G 1,5	23,5	567	875	New*
CF130.15.42.UL[1]	42 G 1,5	25,5	662	1017	New*
CF130.25.03.UL	3 G 2,5	8,5	72	116	
CF130.25.04.UL	4 G 2,5	9,5	96	180	
CF130.25.07.UL[17]	7 G 2,5	13,0	168	350	
CF130.25.12.UL	12 G 2,5	16,0	265	406	
CF130.40.03.UL	3 G 4,0	11,0	115	200	
CF130.60.04.UL	4 G 6,0	13,5	230	360	
CF130.60.05.UL	5 G 6,0	15,0	288	418	

(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
* New in this catalog.

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

Please use www.chainflex.eu/en/CF130 for your online order.

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods.

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950 types from stock no cutting costs ...
(for up to 10 cuts of the same type)

... no minimum order quantity ...

PVC Control cable | CF140.UL

- for medium load requirements
- PVC outer jacket
- shielded
- flame-retardant



Image exemplary.

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	PVC mixture adapted to suit the requirements in energy 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 gray (similar to RAL 7001)
T/R moved	-5 °C to +70 °C following DIN EN 60811, part 1-4 chapter 8.2. +5 °C to +70 °C for use in energy chains® with > 50.000 cycles. Minimum bending radius 7,5 x d with < 10 m travel distance, minimum bending radius 15 x d with ≥ 10 m travel distance.
T/R fixed	-20 °C to +70 °C, minimum bending radius 7,5 x d
v max. unsupported/gliding	3 m/s, 2 m/s
a max.	20 m/s²
Travel distance	Freely suspended travel distances, but also for gliding applications up to 50 m, Class 2
Nominal voltage	**Number of cores < 12:** 300/500 V **Number of cores < 12 (0,25-0,34):** 300/300 V **Number of cores ≥ 12:** 300/300 V (following DIN VDE 0245).
Testing voltage	2000 V (following DIN VDE 0281-2).
Flame-retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1

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950 types from stock no cutting costs ...

(for up to 10 cuts of the same type)

CF140.UL
PVC
7,5-15xd

Class 4.2.1 (4 medium load requirements 2 travel distance up to 50 m 1 no oil-resistance)

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
NFPA	Following NFPA 79-2012 chapter 12.9 (starting from manufacturing date 9/2011)
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (RoHS-II)

Typical application area

- for medium load requirements
- without influence of oil
- preferably indoor applications
- especially for freely suspended travel distances, but also for gliding applications up to 50 m
- Wood/stone processing, packaging industry, supply system, handling, adjusting equipment



chainflex® CF140.UL for automatic feeder units. e-chain®: easychain®

... no minimum order quantity ...

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PVC Control cable | CF140.UL

Class 4.2.1 (4 medium load requirements 2 travel distance up to 50 m 1 no oil-resistance)

CF140.UL
PVC
7,5-15xd



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]	
CF140.02.12.UL	(12 x 0,25)C	10,0	69	111	
CF140.03.05.UL	(5 x 0,34)C	8,0	42	80	
CF140.05.03.UL	(3 G 0,5)C	8,0	37	87	
CF140.05.05.UL	(5 G 0,5)C	9,0	52	130	
CF140.05.18.UL	(18 G 0,5)C	13,5	130	232	
CF140.05.36.UL	(36 G 0,5)C	20,0	273	493	
CF140.07.03.UL	(3 G 0,75)C	8,5	48	90	
CF140.07.04.UL	(4 G 0,75)C	9,0	57	130	
CF140.07.05.UL	(5 G 0,75)C	9,0	66	150	
CF140.07.07.UL	(7 G 0,75)C	10,5	84	170	
CF140.07.12.UL	(12 G 0,75)C	13,0	130	220	
CF140.07.18.UL	(18 G 0,75)C	15,0	179	289	
CF140.07.25.UL	(25 G 0,75)C	17,5	256	414	
CF140.07.36.UL	(36 G 0,75)C	21,5	397	726	New*
CF140.07.42.UL(1)	(42 G 0,75)C	24,0	444	792	New*
CF140.10.02.UL	(2 x 1,0)C	7,5	33	84	
CF140.10.03.UL	(3 G 1,0)C	8,5	44	130	
CF140.10.04.UL	(4 G 1,0)C	9,5	55	150	
CF140.10.05.UL	(5 G 1,0)C	10,0	77	170	
CF140.10.07.UL	(7 G 1,0)C	11,5	107	200	
CF140.10.12.UL	(12 G 1,0)C	13,5	162	243	
CF140.10.18.UL	(18 G 1,0)C	16,5	227	407	
CF140.10.25.UL	(25 G 1,0)C	18,5	322	481	
CF140.15.03.UL	(3 G 1,5)C	9,5	69	150	
CF140.15.04.UL	(4 G 1,5)C	10,0	89	180	
CF140.15.05.UL	(5 G 1,5)C	11,0	105	220	
CF140.15.07.UL	(7 G 1,5)C	12,5	135	260	
CF140.15.12.UL	(12 G 1,5)C	15,0	215	407	
CF140.15.18.UL	(18 G 1,5)C	18,5	339	467	
CF140.15.25.UL	(25 G 1,5)C	22,0	480	703	
CF140.15.36.UL(1)	(36 G 1,5)C	26,5	683	1137	New*
CF140.15.42.UL(1)	(42 G 1,5)C	29,5	803	1345	New*
CF140.25.03.UL	(3 G 2,5)C	10,5	98	171	
CF140.25.04.UL	(4 G 2,5)C	12,0	174	250	

(1) Delivery time upon inquiry
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 in this catalog.

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

Please use www.chainflex.eu/en/CF140 for your online order.

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

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950 types from stock no cutting costs ...
(for up to 10 cuts of the same type)

... no minimum order quantity ...

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PVC Control cable | CF5

- for high load requirements
- PVC outer jacket
- oil-resistant
- flame-retardant

Strip cables 50% faster!



Image exemplary.

Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228).
Core insulation	**Cores < 0,5 mm²:** Mechanically high-quality PP mixture. **Cores ≥ 0,5 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 < 0,5 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, 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 (similar to RAL 6005)
CFRIP	Strip cables 50% faster! The tear strip is in the outer jacket. Video ▶ www.igus.eu/en/CFRIP
T/R moved	-5 °C to +70 °C following DIN EN 60811, part 1-4 chapter 8.2. +5 °C to +70 °C for use in energy chains® with > 50.000 cycles. Minimum bending radius 6,8 x d with < 10 m travel distance, minimum bending radius 7,5 x d with ≥ 10 m travel distance.
T/R fixed	-20 °C to +70 °C, minimum bending radius 4 x d
v max. unsupported/gliding	10 m/s, 5 m/s
a max.	80 m/s²
Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
Torsion	± 90 °, with 1 m cable length
UV-resistant	Medium
Nominal voltage	300/500 V (following DIN VDE 0245).

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950 types from stock no cutting costs ...

(for up to 10 cuts of the same type)

CF5
PVC
6,8-7,5xd

Class 5.3.2 (5 high load requirements 3 travel distance up to 100 m 2 oil-resistant)

Testing voltage	2000 V (following DIN VDE 0281-2).
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 **≥ 0,5 mm²:** Style 11113 and 2570, 600 V, 80 °C
NFPA	Following NFPA 79-2012 chapter 12.9 (starting from manufacturing date 9/2011)
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (RoHS-II)
Clean room	According to ISO Class 2, material/cable tested by IPA according to ISO standard 14644-1

Typical application area

- for high load requirements
- light oil influence
- preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- especially for freely suspended and gliding travel distances up to 100 m
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes



chainflex® CF5/CF6 for shelf control units: long travel in the longitudinal axis. e-chain®: Serie E4/00 with igus® guide trough out of steel

... no minimum order quantity ...

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PVC Control cable | CF5

Class 5.3.2 (5 high load requirements 3 travel distance up to 100 m 2 oil-resistant)

CF5
PVC
6,8-7,5xd

Strip cables 50% faster!



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF5.02.36	36 x 0,25	15,0	95	275
CF5.03.15	15 x 0,34	10,5	52	135
CF5.03.18	18 x 0,34	11,5	64	175
CF5.03.25	25 x 0,34	13,5	88	235
CF5.05.02	2 x 0,5	6,0	10	34
CF5.05.03	3 G 0,5	6,0	15	42
CF5.05.05	5 G 0,5	7,0	24	72
CF5.05.07	7 G 0,5	8,0	34	77
CF5.05.12	12 G 0,5	11,0	58	158
CF5.05.18	18 G 0,5	12,5	86	230
CF5.05.25	25 G 0,5	16,5	121	310
CF5.05.30	30 G 0,5	17,5	144	402
CF5.07.03	3 G 0,75	6,5	22	63
CF5.07.04	4 G 0,75	7,0	29	72
CF5.07.05	5 G 0,75	7,5	36	85
CF5.07.07	7 G 0,75	9,0	50	108
CF5.07.12	12 G 0,75	12,5	86	240
CF5.07.18	18 G 0,75	15,0	130	322
CF5.07.25	25 G 0,75	17,5	181	432
CF5.07.36	36 G 0,75	22,0	259	564
CF5.07.42	42 G 0,75	23,5	302	610
CF5.10.03	3 G 1,0	6,5	29	62
CF5.10.04	4 G 1,0	7,0	39	85
CF5.10.05	5 G 1,0	9,0	48	100
CF5.10.07	7 G 1,0	9,5	68	145
CF5.10.12	12 G 1,0	13,5	116	260
CF5.10.18	18 G 1,0	16,5	173	450
CF5.10.25	25 G 1,0	19,5	241	590
CF5.15.03	3 G 1,5	7,5	44	95
CF5.15.04	4 G 1,5	7,5	58	120
CF5.15.05	5 G 1,5	8,5	72	170
CF5.15.07(17)	7 G 1,5	10,5	101	220
CF5.15.12	12 G 1,5	15,0	173	320
CF5.15.18	18 G 1,5	19,0	260	550
CF5.15.25	25 G 1,5	21,5	361	810
CF5.15.36	36 G 1,5	26,0	518	980
CF5.25.04	4 G 2,5	11,5	96	200
CF5.25.05	5 G 2,5	12,5	120	250
CF5.25.07(17)	7 G 2,5	14,5	168	340
CF5.25.12	12 G 2,5	23,5	288	667
CF5.25.18	18 G 2,5	27,5	432	970
CF5.25.25	25 G 2,5	32,5	600	1366

(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

Please use www.chainflex.eu/en/CF5 for your online order.

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

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Clean Room · NFPA · cULus · CE · RoHS

950 types from stock no cutting costs ...
(for up to 10 cuts of the same type)

... no minimum order quantity ...

igus® GmbH Cologne | Tel. +49(0)2203/9649-800 Fax -222 | info@igus.de | www.chainflex.eu

chanhvinh.com

PVC Control cable | CF6

- for high load requirements
- PVC outer jacket
- shielded
- oil-resistant
- flame-retardant

Strip cables 50% faster!



Image exemplary.

Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228).
Core insulation	**Cores < 0,5 mm²:** Mechanically high-quality PP mixture. **Cores ≥ 0,5 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 < 0,5 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 energy 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 (similar to RAL 6005)
CFRIP	Strip cables 50% faster! The tear strip is in the outer jacket. Video ▶ www.igus.eu/en/CFRIP
T/R moved	-5 °C to +70 °C following DIN EN 60811, part 1-4 chapter 8.2. +5 °C to +70 °C for use in energy chains® with > 50.000 cycles. Minimum bending radius 6,8 x d with < 10 m travel distance, minimum bending radius 7,5 x d with ≥ 10 m travel distance.
T/R fixed	-20 °C to +70 °C, minimum bending radius 4 x d
v max. unsupported/gliding	10 m/s, 5 m/s
a max.	80 m/s²
Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
UV-resistant	Medium
Nominal voltage	300/500 V (following DIN VDE 0245).

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950 types from stock no cutting costs ...

(for up to 10 cuts of the same type)

Class 5.3.2 (5 high load requirements 3 travel distance up to 100 m 2 oil-resistant)

Testing voltage	2000 V (following DIN VDE 0281-2).
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 **≥ 0,5 mm²:** Style 11113 and 2570, 600 V, 80 °C
NFPA	Following NFPA 79-2012 chapter 12.9 (starting from manufacturing date 9/2011)
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (RoHS-II)
Clean room	According to ISO Class 2. Outer jacket material complies with CF5.10.07, tested by IPA according to standard 14644-1.

Typical application area

- for high load requirements
- light oil influence
- preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- especially for freely suspended and gliding travel distances up to 100 m
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes



chainflex® CF5 and CF6 control cable (green) as well as CF211 measuring system cable (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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PVC Control cable | CF6

Class 5.3.2 (5 high load requirements 3 travel distance up to 100 m 2 oil-resistant)

CF6
PVC
6,8-7,5xd

Strip cables 50% faster!



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF6.02.04	(4 x 0,25)C	7,5	31	72
CF6.02.24(3)	(24 x 0,25)C	14,0	122	265
CF6.03.05	(5 x 0,34)C	8,0	41	106
CF6.05.02	(2 x 0,5)C	7,0	31	65
CF6.05.05	(5 G 0,5)C	8,5	48	114
CF6.05.07	(7 G 0,5)C	10,0	63	142
CF6.05.09	(9 G 0,5)C	11,5	77	180
CF6.05.12	(12 G 0,5)C	13,0	93	206
CF6.05.18	(18 G 0,5)C	15,0	120	276
CF6.05.24(3)	(24 G 0,5)C	17,5	190	405
CF6.07.03	(3 G 0,75)C	8,0	52	110
CF6.07.04	(4 G 0,75)C	8,5	54	120
CF6.07.05	(5 G 0,75)C	9,0	73	150
CF6.07.07	(7 G 0,75)C	10,5	93	190
CF6.07.12	(12 G 0,75)C	14,0	138	264
CF6.07.18	(18 G 0,75)C	17,5	204	410
CF6.07.24(3)	(24 G 0,75)C	19,5	250	466
CF6.10.03	(3 G 1,0)C	8,5	61	103
CF6.10.04	(4 G 1,0)C	9,0	75	115
CF6.10.05	(5 G 1,0)C	9,5	87	170
CF6.10.07	(7 G 1,0)C	12,0	113	217
CF6.10.12	(12 G 1,0)C	15,0	171	313
CF6.10.18	(18 G 1,0)C	19,0	261	470
CF6.10.24(3)	(24 G 1,0)C	21,0	307	588
CF6.15.03	(3 G 1,5)C	9,0	81	155
CF6.15.04	(4 G 1,5)C	10,0	85	170
CF6.15.05	(5 G 1,5)C	10,0	106	190
CF6.15.07	(7 G 1,5)C	12,0	153	270
CF6.15.12	(12 G 1,5)C	17,0	232	411
CF6.15.18	(18 G 1,5)C	21,5	367	637
CF6.15.25	(25 G 1,5)C	23,5	492	819
CF6.15.36	(36 G 1,5)C	30,0	630	1241
CF6.25.04	(4 G 2,5)C	13,0	135	275

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: CF6.15.12 – in your desired length (0,5 m steps)
CF6 chainflex® series **.15** Code nominal cross section **.12** Number of cores

Please use www.chainflex.eu/en/CF6 for your online order.

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

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(for up to 10 cuts of the same type)

... no minimum order quantity ...

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chanhvinh.com

PUR Control cable | CF170.D

- for medium load requirements
- PUR outer jacket
- oil-resistant and coolant-resistant
- PVC-free/halogen-free
- low-temperature-flexible



Image exemplary.

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 gray (similar to RAL 7040)
T/R moved	-35 °C to +80 °C, minimum bending radius 7,5 x d with < 10 m travel distance; minimum bending radius 10 x d with ≥ 10 m travel distance
T/R fixed	-40 °C to +80 °C, minimum bending radius 5 x d
v max. unsupported/gliding	3 m/s, 2 m/s
a max.	20 m/s²
Travel distance	Freely suspended travel distances, Class 1
UV-resistant	Medium
Nominal voltage	300/500 V (following DIN VDE 0245).
Testing voltage	2000 V (following DIN VDE 0281-2).
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.
CE	Following 2006/95/EG

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Class 4.1.3 (4 medium load requirements 1 freely suspended 3 oil-resistant)

DESINA	According to VDW, DESINA standardisation
Lead free	Following 2011/55/EU (RoHS-II)

Typical application area

- for medium load requirements
- almost unlimited resistance to oil
- indoor and outdoor applications without direct sun radiation
- especially for freely suspended travel distances, but also for gliding applications up to 20 m
- Machining units/machine tools, low temperature applications

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF170.05.12.D	12 G 0,5	9,0	58	125
CF170.05.18.D	18 G 0,5	11,5	86	180
CF170.05.30.D	30 G 0,5	14,0	144	280
CF170.07.03.D	3 G 0,75	6,5	22	50
CF170.07.05.D	5 G 0,75	7,5	36	70
CF170.07.07.D	7 G 0,75	8,5	50	100
CF170.07.12.D	12 G 0,75	10,0	86	160
CF170.07.18.D	18 G 0,75	12,5	130	230
CF170.07.20.D	20 G 0,75	13,5	144	288
CF170.10.03.D	3 G 1,0	7,0	29	55
CF170.10.04.D	4 G 1,0	7,5	37	61
CF170.10.05.D	5 G 1,0	8,0	48	85
CF170.10.07.D	7 G 1,0	9,5	67	130
CF170.10.12.D	12 G 1,0	10,5	118	170
CF170.10.18.D	18 G 1,0	13,5	173	290
CF170.10.25.D	25 G 1,0	16,0	240	390
CF170.15.03.D	3 G 1,5	7,5	43	72
CF170.15.04.D	4 G 1,5	8,0	58	90
CF170.15.05.D	5 G 1,5	8,5	68	106
CF170.15.07.D(17)	7 G 1,5	10,5	101	180
CF170.15.12.D	12 G 1,5	13,0	173	270
CF170.15.18.D	18 G 1,5	15,0	259	390
CF170.15.25.D	25 G 1,5	19,0	360	540
CF170.25.04.D	4 G 2,5	10,0	96	150
CF170.25.05.D	5 G 2,5	10,5	114	177
CF170.25.07.D(17)	7 G 2,5	13,0	168	280
CF170.40.04.D	4 G 4,0	12,0	154	220
CF170.60.04.D	4 G 6,0	14,0	230	320
CF170.100.04.D	4 G 10,0	18,0	384	530

(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

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PUR Control cable | CF180

- for medium load requirements
- PUR outer jacket
- shielded
- oil-resistant and coolant-resistant
- PVC-free/halogen-free
- low-temperature-flexible



Image exemplary.

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 energy 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 gray (similar to RAL 7040)
T/R moved	-35 °C to +80 °C, minimum bending radius 7,5 x d with < 10 m travel distance; minimum bending radius 15 x d with ≥ 10 m travel distance
T/R fixed	-40 °C to +80 °C, minimum bending radius 7,5 x d
v max. unsupported/gliding	3 m/s, 2 m/s
a max.	20 m/s²
Travel distance	Freely suspended travel distances, Class 1
UV-resistant	Medium
Nominal voltage	300/500 V (following DIN VDE 0245).
Testing voltage	2000 V (following DIN VDE 0281-2).
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).

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(for up to 10 cuts of the same type)

CF180
PUR
7,5-15xd

Class 4.1.3 (4 medium load requirements 1 freely suspended 3 oil-resistant)

Halogen-free	Following EN 50267-2-1.
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (RoHS-II)

Typical application area

- for medium load requirements
- almost unlimited resistance to oil
- indoor and outdoor applications without direct sun radiation
- especially for freely suspended travel distances, but also for gliding applications up to 20 m
- Machining units/machine tools, low temperature applications

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF180.05.18	(18 G 0,5)C	11,5	121	200
CF180.07.03	(3 G 0,75)C	7,5	40	71
CF180.07.05	(5 G 0,75)C	8,5	61	95
CF180.07.12	(12 G 0,75)C	11,5	133	186
CF180.07.18	(18 G 0,75)C	13,5	176	255
CF180.10.05	(5 G 1,0)C	9,5	75	120
CF180.10.18	(18 G 1,0)C	14,0	238	317
CF180.15.03	(3 G 1,5)C	8,5	67	104
CF180.15.04	(4 G 1,5)C	9,0	85	129
CF180.15.07	(7 G 1,5)C	11,5	146	202
CF180.25.04	(4 G 2,5)C	10,5	130	179
CF180.25.05	(5 G 2,5)C	12,5	165	218
CF180.25.07	(7 G 2,5)C	14,5	225	295

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

Please use www.chainflex.eu/en/CF180 for your online order.

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

... no minimum order quantity ...

PUR Control cable | CF77.UL.D



Image exemplary.

- for high load requirements
- PUR outer jacket
- oil-resistant and coolant-resistant
- flame-retardant
- notch-resistant
- PVC-free/halogen-free

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 CF77.UL.03.04.INI: brown, blue, black, white
Outer jacket	Low-adhesion, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in energy chains® (following DIN VDE 0282 Part 10). Colour: Window gray (similar to RAL 7040) CF77.UL.03.04.INI: Colour: Colza yellow (similar to RAL 1021)
T/R moved	-35 °C to +80 °C, minimum bending radius 6,8 x d with < 10 m travel distance, minimum bending radius 7,5 x d with ≥ 10 m travel distance
T/R fixed	-40 °C to +80 °C, minimum bending radius 4 x d
v max. unsupported/gliding	10 m/s, 5 m/s
a max.	80 m/s²
Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
Torsion	± 180 °, with 1 m cable length
UV-resistant	Medium
Nominal voltage	**Number of cores < 12:** 300/500 V **Number of cores < 12 (0,25-0,34):** 300/300 V **Number of cores ≥ 12:** 300/300 V (following DIN VDE 0245)
Testing voltage	2000 V (following DIN VDE 0281-2)

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(for up to 10 cuts of the same type)

Class 5.3.3 (5 high load requirements 3 travel distance up to 100 m 3 oil-resistant)

CF77.UL.D
PUR
6,8-7,5xd

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	Style 10493 and 20233, 300 V, 80 °C
NFPA	Following NFPA 79-2012 chapter 12.9 (starting from manufacturing date 9/2011)
CEI	Following CEI 20-35
CE	Following 2006/95/EG
DESINA	According to VDW, DESINA standardisation
Lead free	Following 2011/55/EU (RoHS-II)

Typical application area

- for high load requirements
- almost unlimited resistance to oil
- indoor and outdoor applications with average sun radiation
- especially for freely suspended and gliding travel distances up to 100 m
- 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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PUR Control cable | CF77.UL.D

Class 5.3.3 (5 high load requirements 3 travel distance up to 100 m 3 oil-resistant)

CF77.UL.D
PUR
6,8-7,5xd



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]	
CF77.UL.02.04.D	4 x 0,25	5,5	10	34	
CF77.UL.03.04.INI	4 x 0,34	6,0	15	38	New*
CF77.UL.05.04.D	4 G 0,5	6,0	19	48	
CF77.UL.05.05.D	5 G 0,5	6,5	24	55	
CF77.UL.05.07.D	7 G 0,5	7,5	37	76	New*
CF77.UL.05.12.D	12 G 0,5	10,0	57	128	
CF77.UL.05.18.D	18 G 0,5	12,0	86	188	
CF77.UL.05.25.D	25 G 0,5	13,5	119	244	
CF77.UL.05.30.D	30 G 0,5	14,5	143	297	
CF77.UL.07.03.D	3 G 0,75	6,0	21	52	
CF77.UL.07.04.D	4 G 0,75	6,5	28	61	
CF77.UL.07.05.D	5 G 0,75	7,0	35	71	
CF77.UL.07.07.D	7 G 0,75	8,5	49	100	
CF77.UL.07.12.D	12 G 0,75	11,5	84	183	
CF77.UL.07.18.D	18 G 0,75	13,5	126	247	
CF77.UL.07.20.D	20 G 0,75	14,0	140	277	
CF77.UL.07.36.D	36 G 0,75	19,0	284	497	
CF77.UL.07.42.D(1)	42 G 0,75	20,5	331	570	New*
CF77.UL.10.02.D	2 x 1,0	6,0	20	52	
CF77.UL.10.03.D	3 G 1,0	6,5	29	61	
CF77.UL.10.04.D	4 G 1,0	7,0	39	75	
CF77.UL.10.05.D	5 G 1,0	7,5	49	91	
CF77.UL.10.07.D	7 G 1,0	8,5	68	112	
CF77.UL.10.12.D	12 G 1,0	11,5	116	222	
CF77.UL.10.18.D	18 G 1,0	14,5	174	321	
CF77.UL.10.25.D	25 G 1,0	17,0	240	406	
CF77.UL.15.03.D	3 G 1,5	7,0	42	81	
CF77.UL.15.04.D	4 G 1,5	7,5	55	99	
CF77.UL.15.05.D	5 G 1,5	8,0	69	117	
CF77.UL.15.07.D(17)	7 G 1,5	10,0	96	164	
CF77.UL.15.12.D	12 G 1,5	14,0	165	290	
CF77.UL.15.18.D	18 G 1,5	17,0	260	397	
CF77.UL.15.25.D	25 G 1,5	19,5	360	555	
CF77.UL.15.36.D(1)	36 G 1,5	23,5	567	837	New*
CF77.UL.15.42.D(1)	42 G 1,5	25,5	662	973	New*

(1) Delivery time upon inquiry.
(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
* New in this catalogue.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]	
CF77.UL.25.03.D	3 G 2,5	8,5	80	108	New*
CF77.UL.25.04.D	4 G 2,5	9,0	91	145	
CF77.UL.25.05.D	5 G 2,5	10,5	120	179	
CF77.UL.25.07.D(17)	7 G 2,5	12,5	168	253	
CF77.UL.40.04.D(1)	4 G 4,0	11,5	154	242	

(1) Delivery time upon inquiry.
(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
* New in this catalogue.

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

Please use www.chainflex.eu/en/CF77 for your online order.

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

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PUR Control cable | CF78.UL

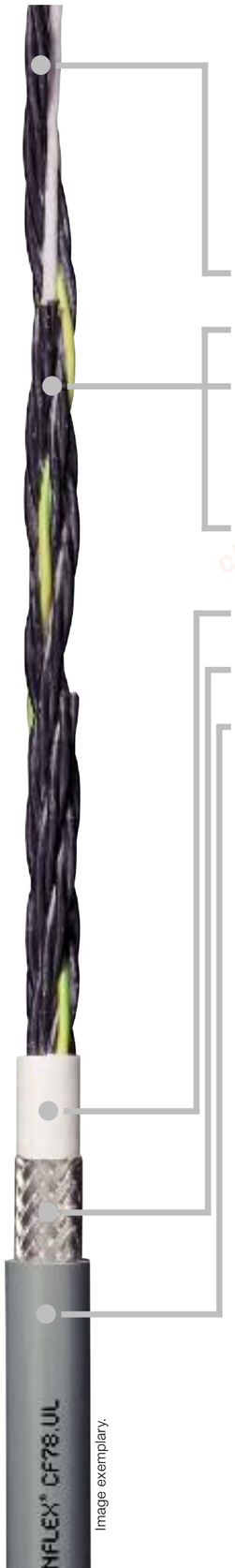


Image exemplary.

- for high load requirements
- PUR outer jacket
- shielded
- oil-resistant and coolant-resistant
- flame-retardant
- notch-resistant
- PVC-free/halogen-free

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	PUR mixture adapted to suit the requirements in energy 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 energy chains® (following DIN VDE 0282 Part 10). Colour: Window gray (similar to RAL 7040)
T/R moved	-35 °C to +80 °C, minimum bending radius 6,8 x d with < 10 m travel distance, minimum bending radius 7,5 x d with ≥ 10 m travel distance
T/R fixed	-40 °C to +80 °C, minimum bending radius 4 x d
v max. unsupported/gliding	10 m/s, 5 m/s
a max.	80 m/s²
Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
UV-resistant	Medium
Nominal voltage	**Number of cores < 12:** 300/500 V **Number of cores < 12 (0,25-0,34):** 300/300 V **Number of cores ≥ 12:** 300/300 V (following DIN VDE 0245)
Testing voltage	2000 V (following DIN VDE 0281-2).

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950 types from stock no cutting costs ...
(for up to 10 cuts of the same type)

CF78.UL
PUR
6,8-7,5xd

Class 5.3.3 (5 high load requirements 3 travel distance up to 100 m 3 oil-resistant)

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	Style 10493 and 20233, 300 V, 80 °C
NFPA	Following NFPA 79-2012 chapter 12.9 (starting from manufacturing date 9/2011)
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (RoHS-II)

Typical application area

- for high load requirements
- almost unlimited resistance to oil
- indoor and outdoor applications with average sun radiation
- especially for freely suspended and gliding travel distances up to 100 m
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

... no minimum order quantity ...

chanhvinh.com

PUR Control cable | CF78.UL

Class 5.3.3 (5 high load requirements 3 travel distance up to 100 m 3 oil-resistant)

CF78.UL
PUR
6,8-7,5xd



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]	
CF78.UL.05.04	(4 G 0,5)C	8,0	32	77	
CF78.UL.05.05	(5 G 0,5)C	8,5	38	88	
CF78.UL.05.07	(7 G 0,5)C	9,5	56	117	
CF78.UL.05.09	(9 G 0,5)C	10,5	68	144	
CF78.UL.05.12	(12 G 0,5)C	12,5	88	198	
CF78.UL.05.18	(18 G 0,5)C	14,0	125	268	
CF78.UL.05.25	(25 G 0,5)C	16,0	163	349	
CF78.UL.07.03	(3 G 0,75)C	8,0	35	82	
CF78.UL.07.04	(4 G 0,75)C	8,5	47	94	
CF78.UL.07.05	(5 G 0,75)C	9,5	57	119	
CF78.UL.07.07	(7 G 0,75)C	10,5	77	153	
CF78.UL.07.12	(12 G 0,75)C	13,5	125	252	
CF78.UL.07.18(1)	(18 G 0,75)C	15,5	175	337	
CF78.UL.07.36	(36 G 0,75)C	21,5	397	691	New*
CF78.UL.07.42(1)	(42 G 0,75)C	24,0	444	755	New*
CF78.UL.10.03	(3 G 1,0)C	8,5	48	101	
CF78.UL.10.04	(4 G 1,0)C	9,0	58	116	
CF78.UL.10.05	(5 G 1,0)C	9,5	71	137	
CF78.UL.10.07	(7 G 1,0)C	11,0	94	179	
CF78.UL.10.12	(12 G 1,0)C	14,5	155	299	
CF78.UL.10.18(1)	(18 G 1,0)C	17,0	220	412	
CF78.UL.10.25	(25 G 1,0)C	19,5	315	535	
CF78.UL.15.03	(3 G 1,5)C	9,5	65	126	
CF78.UL.15.04	(4 G 1,5)C	10,0	80	145	
CF78.UL.15.05	(5 G 1,5)C	10,5	98	172	
CF78.UL.15.07	(7 G 1,5)C	12,5	131	225	
CF78.UL.15.12	(12 G 1,5)C	15,5	215	370	
CF78.UL.15.18	(18 G 1,5)C	19,0	307	511	New*
CF78.UL.15.25	(25 G 1,5)C	22,5	495	710	New*
CF78.UL.15.36(1)	(36 G 1,5)C	26,5	683	1082	New*
CF78.UL.15.42(1)	(42 G 1,5)C	29,5	803	1279	New*
CF78.UL.25.04	(4 G 2,5)C	11,5	123	205	
CF78.UL.25.05(1)	(5 G 2,5)C	12,5	150	245	
CF78.UL.25.07	(7 G 2,5)C	14,5	207	330	
CF78.UL.40.04(1)	(4 G 4,0)C	15,0	189	322	

(1) Delivery time upon inquiry.
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 in this catalogue.

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

Please use www.chainflex.eu/en/CF78 for your online order.

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

eplan download, configurator ► www.igus.eu/en/CF78

950 types from stock no cutting costs ...
(for up to 10 cuts of the same type)

... no minimum order quantity ...

igus® GmbH Cologne | Tel. +49(0)2203/9649-800 Fax -222 | info@igus.de | www.chainflex.eu

chanhvinh.com

PUR Control cable | CF2

- for maximum load requirements
- PUR outer jacket
- shielded
- oil-resistant and coolant-resistant
- flame-retardant
- notch-resistant
- hydrolysis-resistant and microbe-resistant



Image exemplary.

Conductor	Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
Core insulation	**Cores < 0,5 mm²:** Mechanically high-quality PP mixture. **Cores ≥ 0,5 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 < 0,5 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 energy 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 energy chains® (following DIN VDE 0282 Part 10). Colour: Anthracite gray (similar to RAL 7016)
T/R moved	-20 °C to +80 °C, minimum bending radius 5 x d
T/R fixed	-40 °C to +80 °C, minimum bending radius 4 x d
v max. unsupported/gliding	10 m/s, 5 m/s
a max.	80 m/s²
Travel distance	Freely suspended and gliding travel distances up to 100 m, Class 3
UV-resistant	High
Nominal voltage	300/500 V (following DIN VDE 0245).
Testing voltage	2000 V (following DIN VDE 0281-2).
Oil	Oil-resistant (following DIN EN 50363-10-2), Class 3.

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950 types from stock no cutting costs ...
(for up to 10 cuts of the same type)

Class 6.3.3 (6 maximum load requirements 3 travel distance up to 100 m 3 oil-resistant)

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	**< 0,5 mm²:** Style 10493 and 20317, 300 V, 80 °C **≥ 0,5 mm²:** Style 1007 and 20317, 300 V, 80 °C
NFPA	Following NFPA 79-2012 chapter 12.9 (starting from manufacturing date 9/2011)
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (RoHS-II)

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil
- Indoor and outdoor applications
- especially for freely suspended and gliding travel distances up to 100 m
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, refrigerating sector



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

... no minimum order quantity ...

chanhvinh.com

PUR Control cable | CF2

Class 6.3.3 (6 maximum load requirements 3 travel distance up to 100 m 3 oil-resistant)

CF2
PUR
5 x d



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF2.01.04	(4 x 0,14)C	6,0	17	40
CF2.01.08	(8 x 0,14)C	8,0	29	65
CF2.01.12	(12 x 0,14)C	9,0	49	101
CF2.01.18	(18 x 0,14)C	10,0	53	125
CF2.01.24(3)	(24 x 0,14)C	11,5	65	135
CF2.01.36	(36 x 0,14)C	14,0	88	200
CF2.01.48	(48 x 0,14)C	16,0	135	310
CF2.02.04	(4 x 0,25)C	7,0	24	53
CF2.02.08	(8 x 0,25)C	8,0	41	83
CF2.02.18	(18 x 0,25)C	13,0	96	190
CF2.02.24(3)	(24 x 0,25)C	14,0	120	220
CF2.02.48	(48 x 0,25)C	18,0	230	450
CF2.05.12(1)	(12 G 0,5)C	18,0	145	390
CF2.05.18(1)	(18 G 0,5)C	22,0	192	520
CF2.07.04(1)	(4 G 0,75)C	10,0	57	160
CF2.07.12(1)	(12 G 0,75)C	19,0	183	440
CF2.07.24(3)/(1)	(24 G 0,75)C	25,0	302	720
CF2.10.05(1)	(5 G 1,0)C	12,0	91	200
CF2.10.24(1)	(24 G 1,0)C	26,0	363	780
CF2.15.03(1)	(3 G 1,5)C	11,0	85	190

(1) Delivery time upon inquiry. Deliverable alternative: CF10, CF10.UL, CF78.UL
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: CF2.02.18 – in your desired length (0,5 m steps)
CF2 chainflex® series **.02** Code nominal cross section **.18** Number of cores

Please use www.chainflex.eu/en/CF2 for your online order.

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

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950 types from stock no cutting costs ...
(for up to 10 cuts of the same type)

... no minimum order quantity ...

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TPE Control cable | CF9



Image exemplary.

- for maximum load requirements
- TPE outer jacket
- oil-resistant
- biooil-resistant
- PVC-free/halogen-free
- low-temperature-flexible
- hydrolysis-resistant and microbe-resistant

Conductor	Fine-wire 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:** **(0,75mm²):** blue, green-yellow, brown **(0,34mm²):** violet, red, gray, red-blue, green, gray-pink, white-green, white-yellow, white-gray, black, yellow-brown, brown-green, white, yellow, pink, gray-brown
Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in energy chains®. Colour: Steel blue (similar to RAL 5011)
T/R moved	-35 °C to +100 °C, minimum bending radius 5 x d
T/R fixed	-40 °C to +100 °C, minimum bending radius 3 x d
v max. unsupported/gliding	10 m/s, 6 m/s
a max.	100 m/s²
Travel distance	Freely suspended and gliding travel distances up to 400 m and more, Class 4
Torsion	± 90 °, with 1 m cable length
UV-resistant	High

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950 types from stock no cutting costs ...
(for up to 10 cuts of the same type)

CF9
TPE
5 x d

Class 7.4.4 (7 maximum load requirements 4 travel distance up to 400 m and more 4 oil-resistant)

Nominal voltage	300/500 V (following DIN VDE 0245).
Testing voltage	2000 V (following DIN VDE 0281-2).
Oil	Oil-resistant (following DIN EN 60811-2-1), biooil-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.
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (RoHS-II)
Clean room	According to ISO Class 1, material/cable tested by IPA according to ISO standard 14644-1

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- especially for freely suspended and gliding travel distances up to 400 m and more
- 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 36 or www.igus.eu/en/test13

... no minimum order quantity ...

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TPE Control cable | CF9

Class 7.4.4 (7 maximum load requirements 4 travel distance up to 400 m and more 4 oil-resistant)

CF9
TPE
5 x d



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]	
CF9.01.03(1)	3 x 0,14	4,0	5	15	
CF9.02.02	2 x 0,25	4,5	5	18	
CF9.02.03.INI	3 x 0,25	4,5	8	20	
CF9.02.06	6 x 0,25	5,5	15	35	
CF9.02.07	7 x 0,25	6,0	17	42	
CF9.02.08	8 x 0,25	6,5	20	46	
CF9.02.12	12 x 0,25	8,0	29	70	
CF9.02.20	20 x 0,25	9,5	53	104	New*
CF9.03.04.INI	4 x 0,34	5,0	13	31	
CF9.03.05.INI	5 x 0,34	5,5	17	37	
CF9.03.06	6 x 0,34	6,0	20	43	
CF9.03.08	8 x 0,34	7,0	26	55	
CF9.03.16.07.03.INI	4 x 4 x 0,34+3 x 0,75	11,0	74	159	
CF9.05.02	2 x 0,5	5,0	10	31	
CF9.05.03	3 x 0,5	5,5	15	32	
CF9.05.04	4 x 0,5	5,5	20	36	
CF9.05.05	5 x 0,5	6,0	24	46	
CF9.05.07	7 x 0,5	7,0	34	78	
CF9.05.12	12 x 0,5	9,5	58	105	
CF9.05.18	18 x 0,5	12,5	86	165	
CF9.05.25	25 x 0,5	13,5	120	201	
CF9.05.36	36 x 0,5	17,5	173	368	
CF9.07.05	5 G 0,75	6,5	36	58	
CF9.07.07	7 G 0,75	8,0	50	76	
CF9.07.12	12 G 0,75	11,0	86	142	
CF9.07.20	20 G 0,75	13,5	144	231	
CF9.07.25	25 G 0,75	14,5	180	320	
CF9.10.03	3 G 1,0	6,0	29	49	
CF9.10.04	4 G 1,0	6,5	38	56	
CF9.10.05	5 G 1,0	7,0	48	70	
CF9.10.12	12 G 1,0	11,5	115	181	
CF9.10.18	18 G 1,0	14,0	173	267	
CF9.10.25	25 G 1,0	17,0	241	329	

(1) Delivery time upon inquiry.
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 in this catalogue.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.15.02	2 x 1,5	6,5	29	54
CF9.15.04	4 G 1,5	7,5	58	86
CF9.15.05	5 G 1,5	8,0	72	110
CF9.15.07(17)	7 G 1,5	9,5	101	140
CF9.15.12	12 G 1,5	14,0	173	265
CF9.15.18	18 G 1,5	17,0	260	400
CF9.15.25	25 G 1,5	20,0	360	602
CF9.15.36	36 G 1,5	23,0	519	840
CF9.25.04	4 G 2,5	9,0	96	128
CF9.25.05	5 G 2,5	10,0	120	174
CF9.25.07(17)	7 G 2,5	12,0	168	301
CF9.25.12	12 G 2,5	17,0	288	468
CF9.25.16	16 G 2,5	21,0	384	600
CF9.25.18(7)	18 G 2,5	22,5	432	827
CF9.25.25	25 G 2,5	24,5	600	990
CF9.40.04	4 G 4,0	10,0	154	195
CF9.60.04	4 G 6,0	12,5	230	310
CF9.60.05	5 G 6,0	14,0	288	400
CF9.100.04(6)	4 G 10,0	16,5	384	515
CF9.160.04(6)	4 G 16,0	20,0	614	780
CF9.350.04(6)	4 G 35,0	26,0	1344	1700

(7) Nominal voltage 600/1000 V (6) 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

Please use www.chainflex.eu/en/CF9 for your online order.

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

eplan download, configurator ▶ www.igus.eu/en/CF9

950 types from stock no cutting costs ...
(for up to 10 cuts of the same type)

... no minimum order quantity ...

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TPE Control cable | CF10



Image exemplary.

- for maximum load requirements
- TPE outer jacket
- shielded
- oil-resistant
- biooil-resistant
- PVC-free/halogen-free
- low-temperature-flexible
- hydrolysis-resistant and microbe-resistant

Conductor	Fine-wire 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
Inner jacket	TPE mixture adapted to suit the requirements in energy 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 energy chains®. Colour: Steel blue (similar to RAL 5011)
T/R moved	-35 °C to +100 °C, minimum bending radius 5 x d
T/R fixed	-40 °C to +100 °C, minimum bending radius 3 x d
v max. unsupported/gliding	10 m/s, 6 m/s
a max.	100 m/s²
Travel distance	Freely suspended and gliding travel distances up to 400 m and more, Class 4
UV-resistant	High
Nominal voltage	300/500 V (following DIN VDE 0245).
Testing voltage	2000 V (following DIN VDE 0281-2).

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950 types from stock no cutting costs ...

(for up to 10 cuts of the same type)

Class 7.4.4 (7 maximum load requirements 4 travel distance up to 400 m and more 4 oil-resistant)

CF10
TPE
5 x d

Oil	Oil-resistant (following DIN EN 60811-2-1), biooil-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.
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (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

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- especially for freely suspended and gliding travel distances up to 400 m and more
- 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 ...

chanhvinh.com

TPE Control cable | CF10

Class 7.4.4 (7 maximum load requirements 4 travel distance up to 400 m and more 4 oil-resistant)

CF10
TPE
5 x d



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.01.12	(12 x 0,14)C	7,5	36	80
CF10.01.18	(18 x 0,14)C	10,0	67	110
CF10.02.04	(4 x 0,25)C	6,5	25	52
CF10.02.08	(8 x 0,25)C	7,5	40	75
CF10.02.12	(12 x 0,25)C	9,5	64	118
CF10.02.24	(24 x 0,25)C	13,0	109	212
CF10.03.05.INI	(5 x 0,34)C	7,0	32	62
CF10.05.04	(4 x 0,5)C	7,0	38	68
CF10.05.05	(5 x 0,5)C	7,5	41	74
CF10.05.07	(7 x 0,5)C	8,5	54	96
CF10.05.12	(12 x 0,5)C	11,5	102	192
CF10.05.18	(18 x 0,5)C	13,5	143	270
CF10.05.25	(25 x 0,5)C	14,5	167	280
CF10.07.04	(4 G 0,75)C	7,5	47	86
CF10.07.05	(5 G 0,75)C	7,5	57	95
CF10.07.07	(7 G 0,75)C	9,0	85	137
CF10.07.12	(12 G 0,75)C	12,5	138	244
CF10.07.20	(20 G 0,75)C	15,0	205	346
CF10.07.24	(24 G 0,75)C	16,5	239	419
CF10.10.02	(2 x 1,0)C	7,0	38	70
CF10.10.03	(3 G 1,0)C	7,5	47	84
CF10.10.04	(4 G 1,0)C	8,0	59	100
CF10.10.05	(5 G 1,0)C	8,5	71	101
CF10.10.07	(7 G 1,0)C	10,0	105	166
CF10.10.12	(12 G 1,0)C	13,5	169	293
CF10.10.18	(18 G 1,0)C	16,5	240	407
CF10.10.24	(24 G 1,0)C	18,0	305	506
CF10.15.04	(4 G 1,5)C	9,0	96	144
CF10.15.05	(5 G 1,5)C	9,5	108	163
CF10.15.07	(7 G 1,5)C	11,5	155	225
CF10.15.12	(12 G 1,5)C	15,5	235	387
CF10.15.18	(18 G 1,5)C	20,0	361	585

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 approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.25.04	(4 G 2,5)C	11,0	126	180
CF10.25.07	(7 G 2,5)C	13,5	221	331
CF10.25.12	(12 G 2,5)C	19,0	373	624
CF10.40.04	(4 G 4,0)C	11,5	200	290
CF10.40.05	(5 G 4,0)C	13,5	246	353

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

Please use www.chainflex.eu/en/CF10 for your online order.

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

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(for up to 10 cuts of the same type)

... no minimum order quantity ...

Clean-Room
RoHS
CE

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TPE Control cable | CF9.UL



Image exemplary.

- for maximum load requirements
- TPE outer jacket
- oil-resistant
- biooil-resistant
- flame-retardant
- PVC-free
- low-temperature-flexible
- hydrolysis-resistant and microbe-resistant

Conductor	Fine-wire 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.UL.02.03.INI:** brown, blue, black **CF9.UL.03.04.INI:** brown, blue, black, white **CF9.UL.03.05.INI:** brown, blue, black, white, green-yellow
Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in energy chains®. Colour: Steel blue (similar to RAL 5011)
T/R moved	-35 °C to +100 °C, minimum bending radius 5 x d
T/R fixed	-40 °C to +100 °C, minimum bending radius 3 x d
v max. unsupported/gliding	10 m/s, 6 m/s
a max.	100 m/s²
Travel distance	Freely suspended and gliding travel distances up to 400 m and more, Class 4
Torsion	± 90 °, with 1 m cable length
UV-resistant	High
Nominal voltage	300/500 V (following DIN VDE 0245).
Testing voltage	2000 V (following DIN VDE 0281-2).

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950 types from stock no cutting costs ...

(for up to 10 cuts of the same type)

Class 6.4.4 (6 maximum load requirements 4 travel distance up to 400 m and more 4 oil-resistant)

Oil	Oil-resistant (following DIN EN 60811-2-1), biooil-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 21530, 600 V, 90 °C
NFPA	Following NFPA 79-2012 chapter 12.9 (starting from manufacturing date 9/2011)
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (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

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- especially for freely suspended and gliding travel distances up to 400 m and more
- 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



igus® chainflex® cables in a rafting channel application.

... no minimum order quantity ...

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TPE Control cable | CF9.UL

Class 6.4.4 (6 maximum load requirements 4 travel distance up to 400 m and more 4 oil-resistant)

CF9.UL
TPE
5 x d



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.UL.02.02	2 x 0,25	5,0	5	28
CF9.UL.02.03.INI	3 x 0,25	5,5	8	32
CF9.UL.02.04	4 x 0,25	5,5	10	38
CF9.UL.02.06	6 x 0,25	6,0	15	50
CF9.UL.02.07(1)	7 x 0,25	6,5	17	57
CF9.UL.02.08	8 x 0,25	7,0	20	63
CF9.UL.02.12	12 x 0,25	8,5	29	95
CF9.UL.03.04.INI	4 x 0,34	6,0	13	43
CF9.UL.03.05.INI(1)	5 x 0,34	6,0	16	51
CF9.UL.03.06	6 x 0,34	6,5	20	58
CF9.UL.03.08(1)	8 x 0,34	7,5	26	76
CF9.UL.05.02	2 x 0,5	6,0	10	44
CF9.UL.05.03(1)	3 x 0,5	6,5	15	52
CF9.UL.05.04	4 x 0,5	7,0	20	62
CF9.UL.05.05(1)	5 x 0,5	7,0	24	72
CF9.UL.05.07	7 x 0,5	8,5	34	97
CF9.UL.05.12	12 x 0,5	11,0	58	196
CF9.UL.05.18	18 x 0,5	13,5	87	242
CF9.UL.05.25(1)	25 x 0,5	14,5	120	305
CF9.UL.05.36(1)	36 x 0,5	18,5	173	456
CF9.UL.07.05	5 G 0,75	8,0	36	94
CF9.UL.07.07	7 G 0,75	9,5	51	128
CF9.UL.07.12	12 G 0,75	12,5	87	240
CF9.UL.07.20(1)	20 G 0,75	15,5	144	342
CF9.UL.07.25	25 G 0,75	16,5	180	412
CF9.UL.10.03	3 G 1,0	7,5	29	78
CF9.UL.10.04	4 G 1,0	8,0	39	98
CF9.UL.10.05(1)	5 G 1,0	8,5	48	112
CF9.UL.10.12	12 G 1,0	13,5	116	287
CF9.UL.10.18	18 G 1,0	16,5	173	394
CF9.UL.10.25	25 G 1,0	18,5	240	520

(1) Delivery time upon inquiry.
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 approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.UL.15.04	4 G 1,5	9,0	58	127
CF9.UL.15.05	5 G 1,5	9,5	72	152
CF9.UL.15.07(17)	7 G 1,5	11,0	101	198
CF9.UL.15.12	12 G 1,5	15,5	173	385
CF9.UL.15.18	18 G 1,5	19,0	260	535
CF9.UL.15.25	25 G 1,5	22,0	360	685
CF9.UL.25.04	4 G 2,5	10,5	96	189
CF9.UL.25.05	5 G 2,5	11,0	120	220
CF9.UL.25.07(1)/(17)	7 G 2,5	13,5	168	288
CF9.UL.25.12	12 G 2,5	19,0	288	613
CF9.UL.25.16(1)	16 G 2,5	21,5	384	805
CF9.UL.25.18	18 G 2,5	23,5	432	852
CF9.UL.25.25	25 G 2,5	26,5	600	1163
CF9.UL.40.04	4 G 4,0	12,0	154	278
CF9.UL.60.04	4 G 6,0	13,5	231	382

(1) Delivery time upon inquiry.
(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

Please use www.chainflex.eu/en/CF9UL for your online order.

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

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TPE Control cable | CF10.UL



Image exemplary.

- for maximum load requirements
- TPE outer jacket
- shielded
- oil-resistant, biooil-resistant
- flame-retardant
- PVC-free
- low-temperature-flexible
- hydrolysis-resistant and microbe-resistant

Conductor	Fine-wire 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 energy 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 energy chains®. Colour: Steel blue (similar to RAL 5011)
T/R moved	-35 °C to +100 °C, minimum bending radius 5 x d
T/R fixed	-40 °C to +100 °C, minimum bending radius 3 x d
v max. unsupported/gliding	10 m/s, 6 m/s
a max.	100 m/s²
Travel distance	Freely suspended and gliding travel distances up to 400 m and more, Class 4
UV-resistant	High
Nominal voltage	300/500 V (following DIN VDE 0245).
Testing voltage	2000 V (following DIN VDE 0281-2).
Oil	Oil-resistant (following DIN EN 60811-2-1), biooil-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

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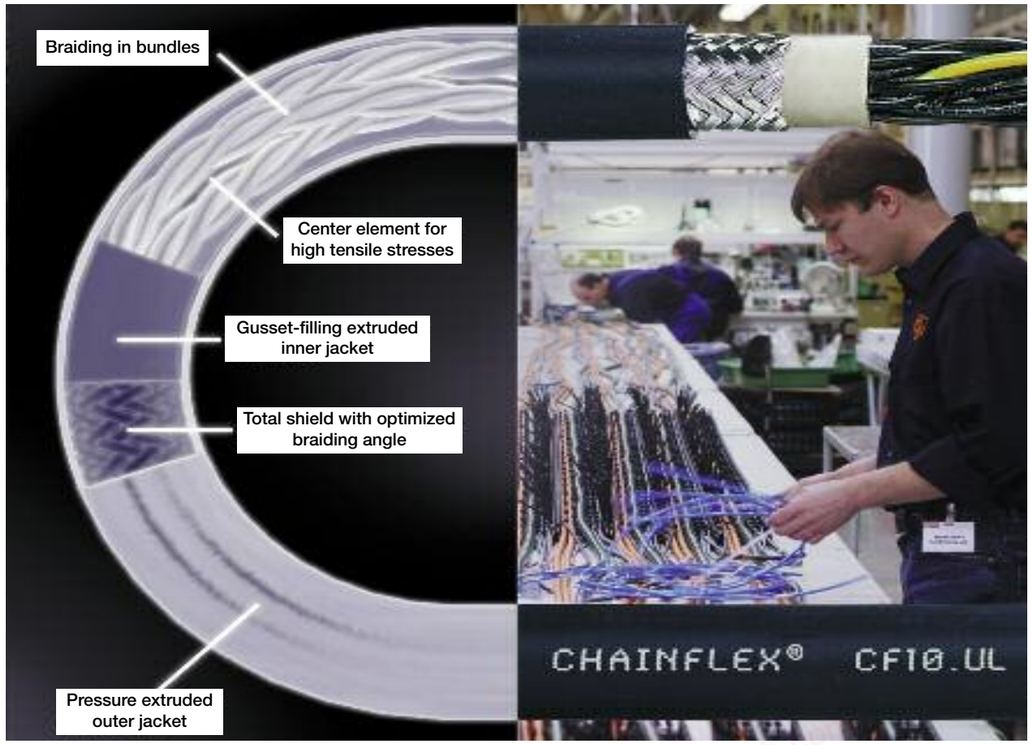
(for up to 10 cuts of the same type)

Class 6.4.4 (6 maximum load requirements 4 travel distance up to 400 m and more 4 oil-resistant)

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 21530, 600 V, 90 °C
NFPA	Following NFPA 79-2012 chapter 12.9 (starting from manufacturing date 9/2011)
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (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

Typical application area

- for maximum load requirements
- almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- especially for freely suspended and gliding travel distances up to 400 m and more
- 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



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

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TPE Control cable | CF10.UL

Class 6.4.4 (6 maximum load requirements 4 travel distance up to 400 m and more 4 oil-resistant)

CF10.UL
TPE
5 x d



Image exemplary.

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.UL.02.04	(4 x 0,25)C	7,0	25	71
CF10.UL.02.08	(8 x 0,25)C	8,5	37	101
CF10.UL.02.12	(12 x 0,25)C	10,0	63	153
CF10.UL.02.24	(24 x 0,25)C	13,0	109	242
CF10.UL.05.04	(4 x 0,5)C	8,5	37	101
CF10.UL.05.05(1)	(5 x 0,5)C	8,5	43	111
CF10.UL.05.12	(12 x 0,5)C	13,0	106	258
CF10.UL.05.18(1)	(18 x 0,5)C	15,0	146	332
CF10.UL.05.25	(25 x 0,5)C	16,0	185	411
CF10.UL.07.03	(3 G 0,75)C	8,5	40	104
CF10.UL.07.04	(4 G 0,75)C	9,0	49	123
CF10.UL.07.05	(5 G 0,75)C	9,5	68	150
CF10.UL.07.07	(7 G 0,75)C	11,0	90	194
CF10.UL.07.12	(12 G 0,75)C	14,5	143	336
CF10.UL.07.20(1)	(20 G 0,75)C	17,0	213	456
CF10.UL.07.24(1)	(24 G 0,75)C	19,0	276	578
CF10.UL.10.02(1)	(2 x 1,0)C	8,5	38	104
CF10.UL.10.03(1)	(3 G 1,0)C	9,0	48	120
CF10.UL.10.04	(4 G 1,0)C	9,5	71	155
CF10.UL.10.05(1)	(5 G 1,0)C	10,5	83	174
CF10.UL.10.07	(7 G 1,0)C	12,0	111	230
CF10.UL.10.12	(12 G 1,0)C	14,5	171	370
CF10.UL.10.18(1)	(18 G 1,0)C	19,0	274	545
CF10.UL.10.24(1)	(24 G 1,0)C	21,5	346	709
CF10.UL.15.04	(4 G 1,5)C	10,5	192	94
CF10.UL.15.05	(5 G 1,5)C	11,0	215	112
CF10.UL.15.07	(7 G 1,5)C	13,0	149	279
CF10.UL.15.12	(12 G 1,5)C	17,5	243	508
CF10.UL.15.18	(18 G 1,5)C	21,5	375	724
CF10.UL.25.04	(4 G 2,5)C	12,0	140	268
CF10.UL.25.07	(7 G 2,5)C	15,0	227	404
CF10.UL.25.12	(12 G 2,5)C	21,5	404	804
CF10.UL.40.04	(4 G 4,0)C	13,5	206	369

(1) Delivery time upon inquiry.
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

Please use www.chainflex.eu/en/CF10UL for your online order.

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

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TPE Control cable | CF98



Image exemplary.

- for maximum load requirements and especially small radii up to 4xd
- TPE outer jacket
- oil-resistant, biooil-resistant
- PVC-free/halogen-free
- low-temperature-flexible
- hydrolysis-resistant and microbe-resistant

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 energy chains®. Colour: Steel blue (similar to RAL 5011)
T/R moved	-35 °C to +90 °C, minimum bending radius 4 x d
T/R fixed	-40 °C to +90 °C, minimum bending radius 3 x d
v max. unsupported/gliding	10 m/s, 6 m/s
a max.	100 m/s²
Travel distance	Short, very fast applications with small radii and tight design space, Class 4
Torsion	± 90 °, with 1 m cable length
UV-resistant	High
Nominal voltage	300/300 V
Testing voltage	1500 V
Oil	Oil-resistant (following DIN EN 60811-2-1), biooil-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.

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(for up to 10 cuts of the same type)

CF98
TPE
4 x d

Class 7.4.4 (7 maximum load requirements 4 travel distance up to 400 m and more 4 oil-resistant)

CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (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

Typical application area

- for maximum load requirements at 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
- automatic insertion machines, automatic doors, clean room, very quick handling

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF98.01.02	2 x 0,14	4,0	4	11
CF98.01.03(1)	3 x 0,14	4,5	6	14
CF98.01.04	4 x 0,14	5,0	9	16
CF98.01.07(1)	7 x 0,14	6,0	14	21
CF98.01.08	8 x 0,14	6,5	16	24
CF98.02.03.INI	3 x 0,25	5,0	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	7,0	30	60
CF98.03.03(1)	3 x 0,34	5,0	14	28
CF98.03.04.INI	4 x 0,34	5,5	19	35
CF98.03.07	7 x 0,34	7,0	32	55
CF98.03.08(1)	8 x 0,34	7,5	38	63
CF98.05.04	4 x 0,5	6,0	31	40

(1) Delivery time upon inquiry
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: CF98.02.04 – in your desired length (0,5 m steps)
CF98 chainflex® series **.02** Code nominal cross section **.04** Number of cores

Please use www.chainflex.eu/en/CF98 for your online order.

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

Test data ► Page 36 or www.igus.eu/en/test10

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TPE Control cable | CF99



Image exemplary.

- **for maximum load requirements and especially small radii up to 4xd**
- **TPE outer jacket**
- **shielded**
- **oil-resistant, biooil-resistant**
- **PVC-free/halogen-free**
- **low-temperature-flexible**
- **hydrolysis-resistant and microbe-resistant**

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 energy 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 energy chains®. Colour: Steel blue (similar to RAL 5011)
T/R moved	-35 °C to +90 °C, minimum bending radius 4 x d
T/R fixed	-40 °C to +90 °C, minimum bending radius 3 x d
v max. unsupported/gliding	10 m/s, 6 m/s
a max.	100 m/s²
Travel distance	Short, very fast applications with small radii and tight design space, Class 4
UV-resistant	High
Nominal voltage	300/300 V
Testing voltage	1500 V
Oil	Oil-resistant (following DIN EN 60811-2-1), biooil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4.
Halogen-free	Following EN 50267-2-1.

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(for up to 10 cuts of the same type)

Class 7.4.4 (7 maximum load requirements 4 travel distance up to 400 m and more 4 oil-resistant)

Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
CE	Following 2006/95/EG
Lead free	Following 2011/55/EU (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

Typical application area

- for maximum load requirements at 4xd
- 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
- automatic insertion machines, automatic doors, clean room, very quick handling

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF99.01.02	(2 x 0,14)C	5,5	14	33,0
CF99.01.03(1)	(3 x 0,14)C	6,0	17	37,0
CF99.01.04	(4 x 0,14)C	6,0	21	43,0
CF99.01.07(1)	(7 x 0,14)C	7,5	32	62,0
CF99.01.08	(8 x 0,14)C	8,0	36	69,0
CF99.02.03.INI(1)	(3 x 0,25)C	6,5	25	48,0
CF99.02.04	(4 x 0,25)C	6,5	30	56,0
CF99.02.07	(7 x 0,25)C	8,0	48	85,0
CF99.02.08(1)	(8 x 0,25)C	8,5	54	93,0
CF99.03.03(1)	(3 x 0,34)C	6,5	27	51,0
CF99.03.04.INI(1)	(4 x 0,34)C	7,0	35	62,0
CF99.03.08	(8 x 0,34)C	9,0	64	105,0

(1) Delivery time upon inquiry
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: CF99.01.02 – in your desired length (0,5 m steps)
CF99 chainflex® series **.01** Code nominal cross section **.02** Number of cores

Please use www.chainflex.eu/en/CF99 for your online order.

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

... no minimum order quantity ...