Control cables

Chainflex® types

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	54
CF140.UL	PVC	✔	7,5-15	-5/ +70				3	2	20	58
CF5	PVC		6,8-7,5	-5/ +70		✔	✔	10	5	80	62
CF6	PVC	✔	6,8-7,5	-5/ +70		✔		10	5	80	66
CF77.UL.D	PUR		6,8-7,5	-35/ +80		✔	✔	10	5	80	70
CF78.UL	PUR	✔	6,8-7,5	-35/ +80		✔		10	5	80	72
CF2	PUR	✔	5	-20/ +80		✔		10	5	80	74
CF9	TPE		5	-35/ +100		✔	✔	10	6	100	78
CF10	TPE	✔	5	-35/ +100		✔		10	6	100	82
CF9.UL	TPE		5	-35/ +100		✔	✔	10	6	100	86
CF10.UL	TPE	✔	5	-35/ +100		✔		10	6	100	90
CF98	TPE		4	-35/ +90		✔	✔	10	6	100	94
CF99	TPE	✔	4	-35/ +90		✔		10	6	100	96

CF130.UL
PVC
7.5-10xd

Fine-wire stranded conductor

Center element for high tensile stresses

Braiding in bundles around high-tensile center cord

Gusset-filled extruded

PVC Control cable Chainflex® CF130.UL

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

Temperature range moved	**-5 °C to +70 °C, minimum bending radius 7.5 x d with < 10 m travel; minimum bending radius 10 x d with ≥ 10 m travel**
Temperature range 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 and 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 332-1, CEI 20-35, FT1.
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
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 0282 Part 10). Colour: gray (similar to RAL 7001)

... no minimum order quantity

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Class 4.2.1

Class 4.2.1

Price index

	UL/CSA	Style 10493 and 20200, 300 V, 60 °C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG
	Lead free	Following EU guideline (RoHS) 2002/95/EC.

Typical application area

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

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PVC Control cable Chainflex® CF130.UL

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

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
CF130.03.02.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
CF130.10.02.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	9.5	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
CF130.15.02.UL[1]	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	9.5	72	140
CF130.15.07.UL	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

[1] Delivery time upon inquiry
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
G = with earthed conductor green-yellow **x =** without earthed conductor

Class 4.2.1

Price index

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF130.25.03.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	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

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

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.

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

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Chainflex® CF130.UL for woodworking. E-Chain®: E4/light

850 types from stock no cutting costs ...
... and order online ► www.igus.eu/en/CF130 (for up to 10 cuts of the same type)

Fine-wire stranded conductor

Braiding in bundles around high-tensile center cord

Gusset-filled extruded

Bending-resistant braided copper shield

Pressure extruded

PVC Control cable Chainflex® CF140.UL

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

Temperature range moved	**-5 °C to +70 °C, minimum bending radius 7.5 x d with < 10 m travel; minimum bending radius 15 x d with ≥ 10 m travel**
Temperature range 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 and for gliding applications up to 50 m, Class 2
Nominal voltage	**Number of cores < 12:** 300/500 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 332-1, CEI 20-35, FT1.
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
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, tinned braided copper shield. Coverage approx. 55% linear, approx. 80% optical.

... no minimum order quantity

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Class 4.2.1

Price index

Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in Energy Chains® (following DIN VDE 0282 Part 10). Colour: gray (similar to RAL 7001)
UL/CSA	Style 10493 and 20200, 300 V, 60 °C
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following EU guideline (RoHS) 2002/95/EC

Typical application area

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

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PVC Control cable Chainflex® CF140.UL

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

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
CF140.10.03.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	1 3.5	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	14.5	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
CF140.25.04.UL	(4 G 2.5)C	12.0	174	250

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

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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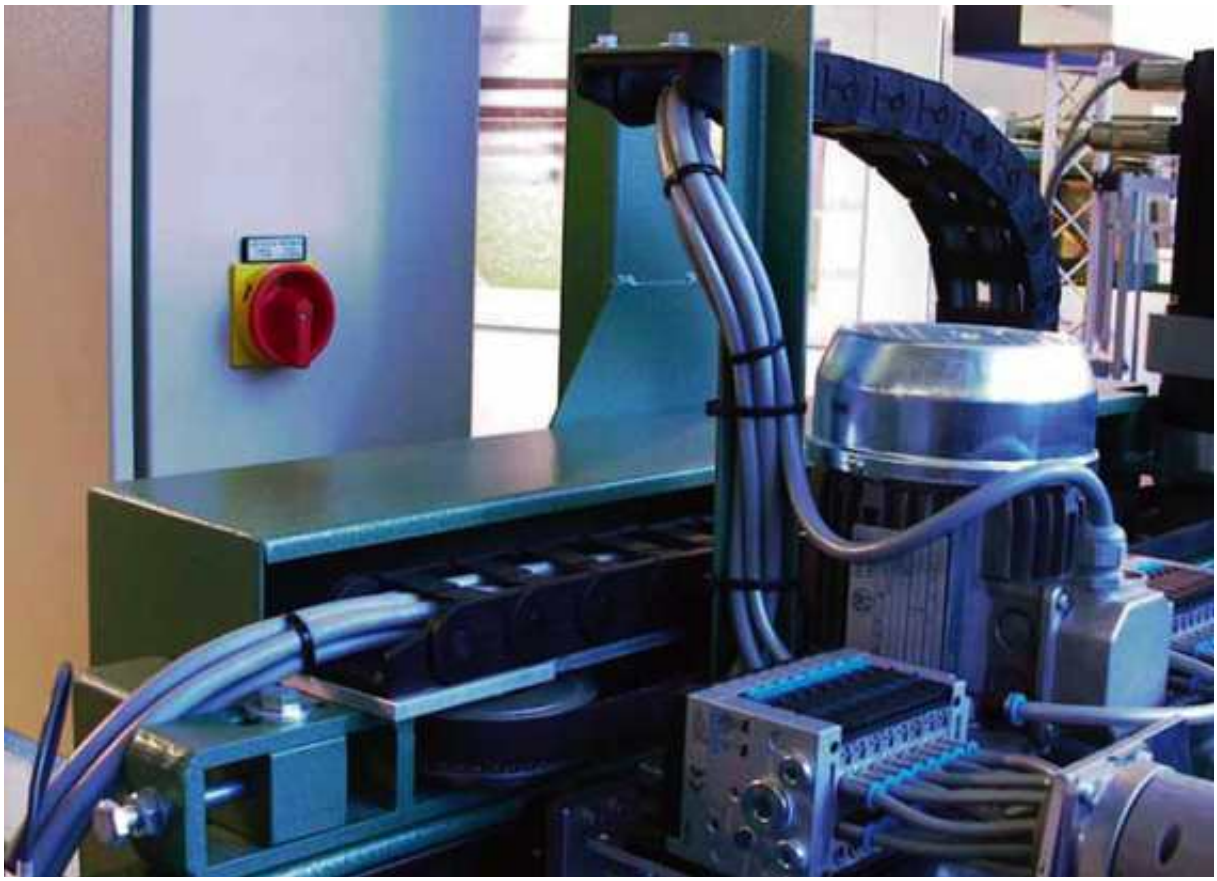

CF140.UL for automatic feeder units. E-Chain®: Easy Chain®

Especially bending-resistant fine-wire stranded conductor

Center element for high tensile stresses

Braiding in bundles around high-tensile center cord

Gusset-filled extruded, oil-proof PVC mixture

PVC Control cable Chainflex® CF5

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

Temperature range moved	**-5 °C to +70 °C, minimum bending radius 6.8 x d with < 10 m travel; minimum bending radius 7.5 x d with ≥ 10 m travel**
Temperature range 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).
Testing voltage	2000 V (following DIN VDE 0281-2).
Oil	Oil-resistant (following DIN EN 60811-2-1, DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228).
Core insulation	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 0282 Part 10). Colour: green (similar to RAL 6005)

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Class 5.3.2

Price index

	UL/CSA	≤ **1.5 mm²:** Style 1007 and 2464, 300 V, 80 °C ≥ **2.5 mm²:** Style 1011 and 2570, 600 V, 80 °C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG
	Lead free	Following EU guideline (RoHS) 2002/95/EC
	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

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PVC Control cable Chainflex® CF5

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

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	14.5	87	275
CF5.03.15	15 x 0.34	10.0	49	133
CF5.03.18	18 x 0.34	11.5	59	172
CF5.03.25	25 x 0.34	13.5	82	234
CF5.05.02	2 x 0.5	5.5	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	11.5	58	158
CF5.05.18	18 G 0.5	13.5	86	230
CF5.05.25	25 G 0.5	17.0	121	310
CF5.05.30	30 G 0.5	18.5	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	8.0	36	85
CF5.07.07	7 G 0.75	9.0	50	108
CF5.07.12	12 G 0.75	12.0	86	240
CF5.07.18	18 G 0.75	15.5	130	322
CF5.07.25	25 G 0.75	19.0	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	7.0	29	62
CF5.10.04	4 G 1.0	8.0	39	85
CF5.10.05	5 G 1.0	8.5	48	100
CF5.10.07	7 G 1.0	10.0	68	145
CF5.10.12	12 G 1.0	13.5	116	260
CF5.10.18	18 G 1.0	17.5	173	450
CF5.10.25	25 G 1.0	19.5	241	590
CF5.15.03	3 G 1.5	8.0	44	95
CF5.15.04	4 G 1.5	8.0	58	120
CF5.15.05	5 G 1.5	10.0	72	170
CF5.15.07	7 G 1.5	11.0	101	220
CF5.15.12	12 G 1.5	16.0	173	320
CF5.15.18	18 G 1.5	22.0	260	550
CF5.15.25	25 G 1.5	24.0	361	810
CF5.15.36	36 G 1.5	26.0	518	980

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

Clean-Room

c UL us

RoHS

CE

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Class 5.3.2

Price index

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF5.25.04	4 G 2.5	11.0	96	200
CF5.25.05	5 G 2.5	12.0	120	250
CF5.25.07	7 G 2.5	15.0	168	340
CF5.25.12	12 G 2.5	21.0	288	667
CF5.25.18	18 G 2.5	27.5	432	970
CF5.25.25	25 G 2.5	31.5	600	1366

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

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

CF5/CF6 for shelf control units: long travel in the longitudinal axis. E-Chain®: Series E4/00 with igus® guide trough out of steel

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CF6
PVC
6.8-7.5xd

Especially bending-resistant fine-wire stranded conductor

Center element for high tensile stresses

Braiding in bundles around high-tensile center cord

Gusset-filled extruded

Highly flexible braided copper shield

Pressure extruded, oil-resistent PVC blend

PVC Control cable Chainflex® CF6

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

Temperature range moved	**-5 °C to +70 °C, minimum bending radius 6.8 x d with < 10 m travel; minimum bending radius 7.5 x d with ≥ 10 m travel**
Temperature range 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).
Testing voltage	2000 V (following DIN VDE 0281-2).
Oil	Oil-resistant (following DIN EN 60811-2-1, DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228).
Core insulation	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, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.

Clean-Room

c UL us

RoHS

CE

Class 5.3.2

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Class 5.3.2

Price index

Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in Energy Chains® (following DIN VDE 0282 Part 10). Colour: green (similar to RAL 6005)
UL/CSA	**≤ 1.5 mm²:** Style 1007 and 2464, 300 V, 80 °C **≥ 2.5 mm²:** Style 1011 and 2570, 600 V, 80 °C
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following EU guideline (RoHS) 2002/95/EC
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

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PVC Control cable Chainflex® CF6

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

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	6.5	28	55
CF6.02.24[3]	(24 x 0.25)C	13.5	100	250
CF6.03.05	(5 x 0.34)C	7.5	34	95
CF6.05.05	(5 G 0.5)C	9.0	48	114
CF6.05.07	(7 G 0.5)C	10.5	63	142
CF6.05.09	(9 G 0.5)C	12.5	77	182
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	17.0	190	405
CF6.07.03	(3 G 0.75)C	8.5	52	110
CF6.07.04	(4 G 0.75)C	9.0	54	120
CF6.07.05	(5 G 0.75)C	10.0	73	150
CF6.07.07	(7 G 0.75)C	12.0	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	11.0	87	170
CF6.10.07	(7 G 1.0)C	13.0	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	10.0	81	155
CF6.15.04	(4 G 1.5)C	10.0	85	170
CF6.15.05	(5 G 1.5)C	11.0	106	190
CF6.15.07	(7 G 1.5)C	14.0	153	270
CF6.15.12	(12 G 1.5)C	18.0	232	411
CF6.15.18	(18 G 1.5)C	22.0	367	637
CF6.15.25	(25 G 1.5)C	23.0	492	819
CF6.25.04	(4 G 2.5)C	12.5	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 earthed conductor green-yellow **x =** without earthed conductor

Clean-Room

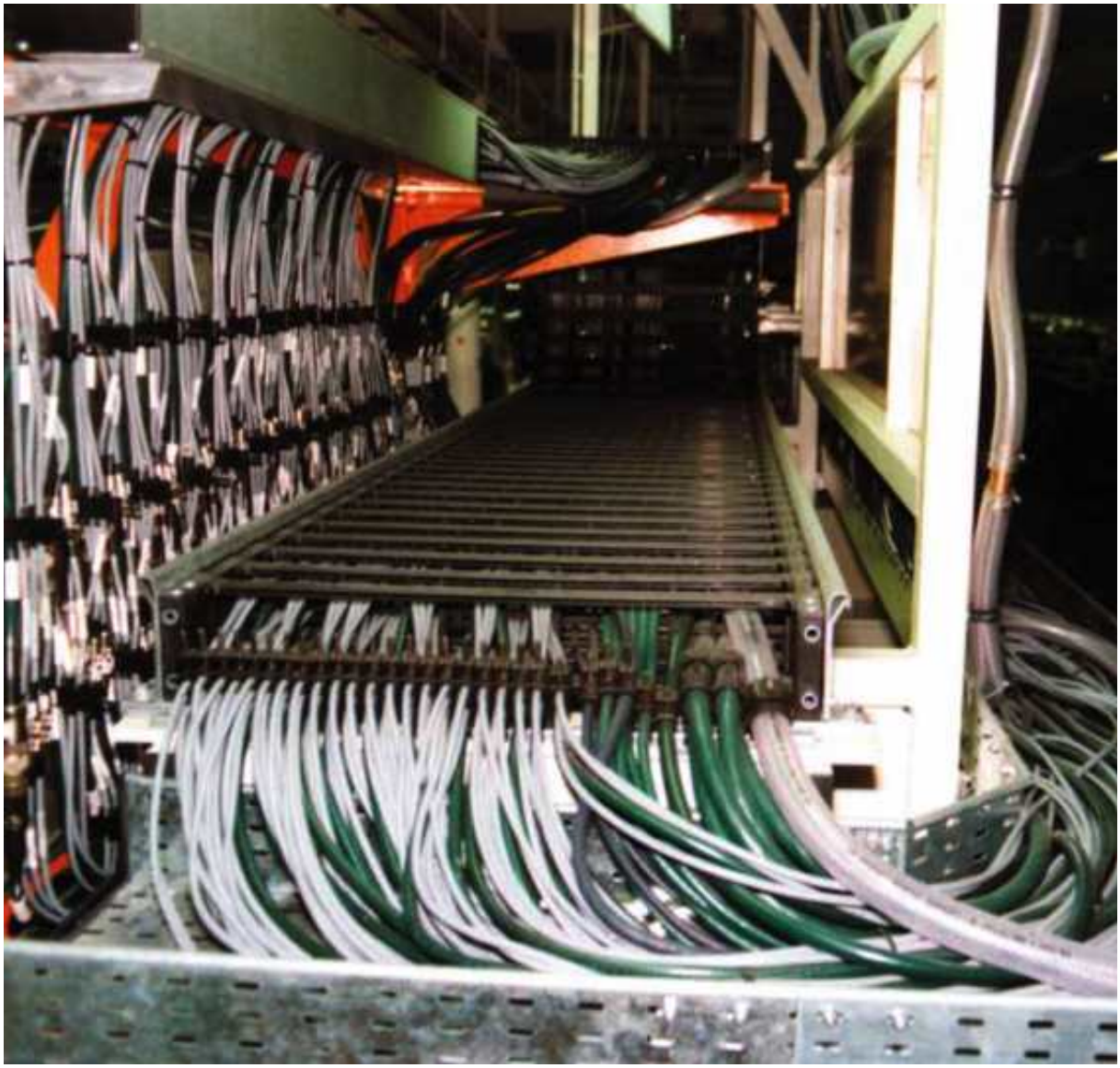
RoHS

CE

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



CF5 and CF6 control cable (green) as well as CF211 measuring system cable (gray) in a screwing station of a motor factory.
E-Chain®: System E4/00 with Chainfix Clip Strain Relief Devices

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CF77.UL.D
PUR
6.8-7.5xd

Fine-wire stranded conductor

Center element for high tensile stresses

Braiding in bundles around high-tensile center cord

Gusset-filled extruded

PUR Control cable Chainflex® CF77.UL.D

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

Temperature range 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**
Temperature range 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 2
UV-resistant	Medium
Nominal voltage	**Number of cores < 12:** 300/500 V **Number of cores ≥ 12:** 300/300 V (following DIN VDE 0245)
Testing voltage	2000 V (following DIN VDE 0281-2)
Oil	Oil-resistant (following DIN EN 60811-2-1, DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 332-1, CEI 20-35, FT1
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following EN 50267-2-1
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 Energy Chains® (following DIN VDE 0282 Part 10). Colour: gray (similar to RAL 7040)
UL/CSA	Style 10493 and 20233, 300 V, 80 °C
CEI	Following CEI 20-35
CE	Following 2006/95/EG

... no minimum order quantity

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Class 5.2.3

DESINA According to VDW, DESINA standardisation

Lead free Following EU guideline (RoHS) 2002/95/EC

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

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	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.05.12.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(1)	25 G 0,5	13,5	119	244	
CF77.UL.05.30.D(1)	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	8,0	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.10.02.D(1)	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	New
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	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	New
CF77.UL.15.25.D	25 G 1,5	19,5	360	555	New
CF77.UL.25.04.D	4 G 2,5	9,0	91	145	
CF77.UL.25.05.D(1)	5 G 2,5	10,5	120	179	
CF77.UL.25.07.D	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
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
G = with earthed conductor green-yellow **x** = without earthed conductor

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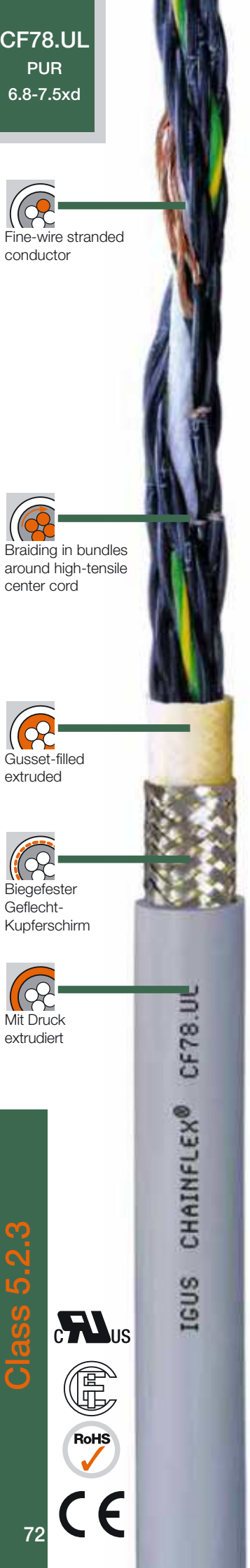
CF78.UL
PUR
6.8-7.5xd



PUR Control cable Chainflex® CF78.UL

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

Temperature range 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**
Temperature range 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 2
UV-resistant	Medium
Nominal voltage	**Number of cores < 12:** 300/500 V **Number of cores ≥ 12:** 300/300 V (following DIN VDE 0245)
Testing voltage	2000 V (following DIN VDE 0281-2).
Oil	Oil-resistant (following DIN EN 60811-2-1, DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
Halogen-free	Following EN 50267-2-1
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, tinned braided copper shield. 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: gray (similar to RAL 7040)

... no minimum order quantity

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	UL/CSA	Style 10493 and 20233, 300 V, 80 °C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG
	Lead free	Following EU guideline (RoHS) 2002/95/EC

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

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[1]	(5 G 0,5)C	8,5	38	88	
CF78.UL.05.07[1]	(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[1]	(12 G 0,5)C	12,5	88	198	
CF78.UL.05.18	(18 G 0,5)C	14,0	125	268	
CF78.UL.05.24[1]	(24 G 0,5)C	15,5	160	334	
CF78.UL.07.03	(3 G 0,75)C	8,0	35	82	
CF78.UL.07.05	(5 G 0,75)C	9,5	57	119	
CF78.UL.07.07[1]	(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.10.03	(3 G 1,0)C	8,5	48	101	
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	14,1	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	New
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.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 earthed conductor green-yellow **x =** without earthed conductor

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CF2
PUR
5 x d

Extremely high flexible special conductor

Center element for high tensile stresses

Braiding in bundles around high-tensile center cord

Gusset-filled, pressure extruded

Highly flexible braided copper shield

Pressure extruded PUR blend

PUR Control cable Chainflex® CF2

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

Temperature range moved	**-20 °C to +80 °C, minimum bending radius 5 x d**
Temperature range 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 60811-2-1, DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606
Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
Conductor	Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following EN 60228).
Core insulation	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 **< 0.5 mm² :** PP mixture **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.

... no minimum order quantity

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Class 6.3.3

Price index

Inner jacket	PVC mixture adapted to suit the requirements in Energy Chains®.
Overall shield	Extremely bending-resistant, tinned braided copper shield. 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)
UL/CSA	**< 0.5 mm²:** Style 10467 and 20317, 300 V, 80 °C **≥ 0.5 mm²:** Style 1007 and 20317, 300 V, 80 °C **≥ 2.5 mm²:** Style 1011 and 20234, 600 V, 80 °C
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following EU guideline (RoHS) 2002/95/EC.

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

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PUR Control cable Chainflex® CF2

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

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	17,0	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	20,0	230	450
CF2.05.05[1]	(5 G 0,5)C	10,5	64	170
CF2.05.07[1]	(7 G 0,5)C	13,0	82	210
CF2.05.09[1]	(9 G 0,5)C	15,0	97	260
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
CF2.05.24[1/3]	(24 G 0,5)C	23,0	238	620
CF2.07.03[1]	(3 G 0,75)C	10,0	51	140
CF2.07.04[1]	(4 G 0,75)C	10,0	57	160
CF2.07.07[1]	(7 G 0,75)C	14,0	102	240
CF2.07.12[1]	(12 G 0,75)C	19,0	183	440
CF2.07.24[1/3]	(24 G 0,75)C	25,0	302	720
CF2.10.03[1]	(3 G 1,0)C	10,0	63	150
CF2.10.05[1]	(5 G 1,0)C	12,0	91	200
CF2.10.07[1]	(7 G 1,0)C	14,0	120	260
CF2.10.12[1]	(12 G 1,0)C	20,0	213	480
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
CF2.15.07[1]	(7 G 1,5)C	16,0	163	340
CF2.15.12[1]	(12 G 1,5)C	23,0	289	650

[1] Delivery time upon inquiry
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 earthed conductor green-yellow **x =** without earthed conductor

c UL us

RoHS

CE

Order example: CF2.10.24 – in your desired length (0.5 m steps)
CF2 Chainflex® series .10 Code nominal cross section .24 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

CF2 cables are resistant to oil and coolants. E-Chain®: System E4/00

850 types from stock no cutting costs ...
... and order online ► www.igus.eu/en/CF2 **(for up to 10 cuts of the same type)**

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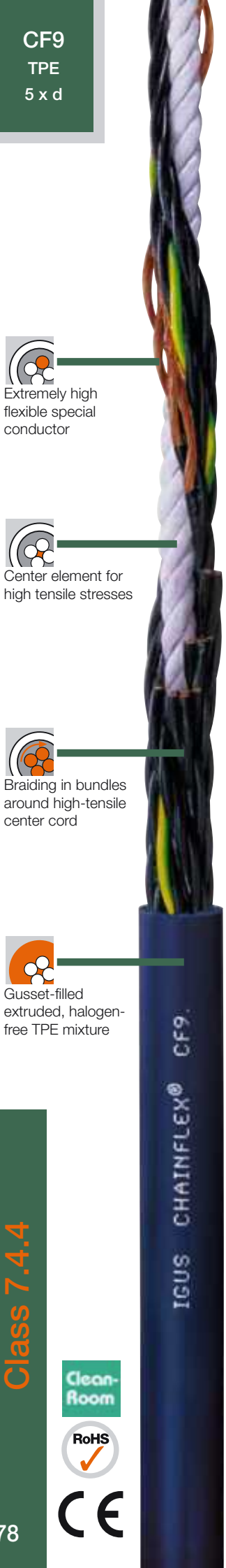
TPE Control cable Chainflex® CF9

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



Temperature range moved	**-35 °C to +100 °C, minimum bending radius 5 x d**
Temperature range 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), bio-oil-resistant (following VDMA 24568), 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.
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.

Clean-room

RoHS

CE

... no minimum order quantity

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Class 7.4.4

Price index

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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: dark-blue (similar to RAL 5011)

CE

Following 2006/95/EG

Lead free

Following EU guideline (RoHS) 2002/95/EC.

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

TPE Control cable Chainflex® CF9

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

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.03.16.07.03.INI	4 x 4 x 0.34 + 3 x 0.75	11.0	74	159
CF9.02.02	2 x 0.25	4.0	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
CF9.02.18[1]	18 x 0.25	9.5	44	98
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	6.5	26	55
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	7.0	50	76
CF9.07.12	12 G 0.75	11.0	86	142
CF9.07.20	20 G 0.75	13.0	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
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	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

[1] Delivery time upon inquiry
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
G = with earthed conductor green-yellow **x =** without earthed conductor

Clean-room

RoHS

CE

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Price index

Delivery program Part No.	Number of cores and conductor nominal cross section [mm²]	External diameter approx. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.25.04	4 G 2.5	9.0	96	128
CF9.25.05	5 G 2.5	10.0	120	174
CF9.25.07	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[6]	18 G 2.5	24.0	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[7]	4 G 10.0	15.5	384	515
CF9.160.04[7]	4 G 16.0	20.0	614	780
CF9.350.04[7]	4 G 35.0	26.0	1344	1700

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
[6] Nominal voltage 600/1000 V [7] Nominal voltage 450/750 V
G = with earthed conductor green-yellow **x =** without earthed conductor

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

CF9 for maximum load requirements for both indoor and outdoor applications. E-Chain®: System E4/4

850 types from stock no cutting costs ...
... and order online ► www.igus.eu/en/CF9 (for up to 10 cuts of the same type)

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CF10
TPE
5 x d

Extremely high flexible special conductor

Center element for high tensile stresses

Braiding in bundles around high-tensile center cord

Gusset-filled, pressure extruded

Highly flexible braided copper shield

Pressure extruded, halogen-free TPE blend

TPE Control cable Chainflex® CF10

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

Temperature range moved	**-35 °C to +100 °C, minimum bending radius 5 x d**
Temperature range fixed	**-40 °C to +100 °C, minimum bending radius 3 x d**
v max. unsupported/gliding	10 m/s, 5 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), bio-oil-resistant (following VDMA 24568), 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.
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.

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Inner jacket	TPE mixture adapted to suit the requirements in Energy Chains®.
Overall shield	Extremely bending-resistant, tinned braided copper 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: dark-blue (similar to RAL 5011)
CE	Following 2006/95/EG
Lead free	Following EU guideline (RoHS) 2002/95/EC.
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

TPE Control cable Chainflex® CF10

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

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
CF10.05.04	(4 x 0.5)C	7.0	38	68
CF10.05.05	(5 x 0.5)C	7.5	55	91
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
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 earthed conductor green-yellow **x =** without earthed conductor

Class 7.4.4

Clean-room

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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

Control cable CF10 in storage and retrieval units for high-bay warehouses. E-Chain®: System E2 medium

850 types from stock no cutting costs ...
... and order online ► www.igus.eu/en/CF10 (for up to 10 cuts of the same type)

CF9.UL
TPE
5 x d

Highly flexible special conductor

Center element for high tensile stresses

Braiding in bundles around high-tensile center cord

Gusset-filled extruded TPE mixture

TPE Control cable Chainflex® CF9.UL

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

Temperature range moved	**-35 °C to +100 °C, minimum bending radius 5 x d**
Temperature range 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), bio-oil-resistant (following VDMA 24568), Class 4
Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
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.

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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: dark-blue (similar to RAL 5011)
UL/CSA	**< 0.5 mm²:** Style 10479 and 21529, 300 V, 90 °C **≥ 0.5 mm²:** Style 10258 and 21530, 600 V, 90 °C
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following EU guideline (RoHS) 2002/95/EG.
Clean room	According to ISO Class 1. Outer jacket material complies with CF34.25.04, 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

TPE Control cable Chainflex® CF9.UL

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

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(1)	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(1)	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(1)	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(1)	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(1)	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(1)	5 G 0.75	8.0	36	94
CF9.UL.07.07(1)	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(1)	25 G 1.0	18.5	240	520
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	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	19.5	360	685

(1) Delivery time upon inquiry
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
G = with earthed conductor green-yellow **x =** without earthed conductor

Clean-Room

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RoHS

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Price index

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.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)	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(1)	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
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
G = with earthed conductor green-yellow **x =** without earthed conductor

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

igus® Chainflex® cables in a rafting channel application.

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CF10.UL
TPE
5 x d

Highly flexible special conductor

Center element for high tensile stresses

Braiding in bundles around high-tensile center cord

Gusset-filled extruded

Highly flexible braided copper shield

Pressure extruded TPE blend

TPE Control cable Chainflex® CF10.UL

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

Temperature range moved	**-35 °C to +100 °C, minimum bending radius 5 x d**
Temperature range 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), bio-oil-resistant (following VDMA 24568), Class 4
Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
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.

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Class 6.4.4

Class 6.4.4

Price index

Inner jacket	TPE mixture adapted to suit the requirements in Energy Chains®.
Overall shield	Extremely bending-resistant, tinned braided copper 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: dark-blue (similar to RAL 5011)
UL/CSA	**< 0.5 mm²:** Style 10479 and 21529, 300 V, 90 °C **≥ 0.5 mm²:** Style 10258 and 21530, 600 V, 90 °C
CEI	Following CEI 20-35
CE	Following 2006/95/EG
Lead free	Following EU guideline (RoHS) 2002/95/EG.
Clean room	According to ISO Class 1. Outer jacket material complies with CF34.25.04, 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

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TPE Control cable Chainflex® CF10.UL

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

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(1)	(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(1)	(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	94	192
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(1)	(7 G 2.5)C	15.0	227	404
CF10.UL.25.12(1)	(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 earthed conductor green-yellow **x =** without earthed conductor

Class 6.4.4

Clean-Room

c UL us

RoHS

CE

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Class 6.4.4

Price index

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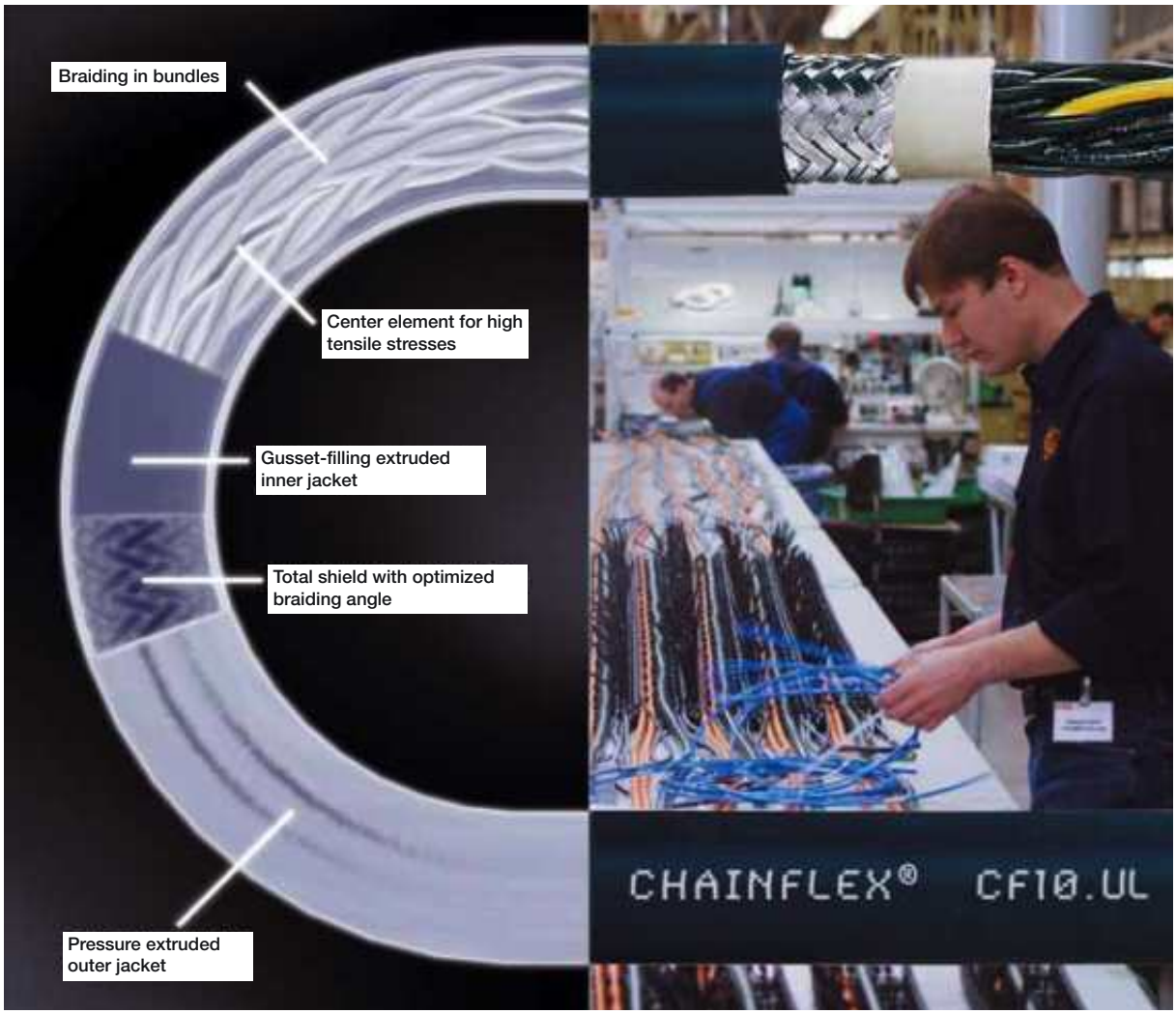
Order example: CF10.UL.10.02 – in your desired length (0.5 m steps)
CF10.UL Chainflex® series .10 Code nominal cross section .02 Number of cores

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

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



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

850 types from stock no cutting costs ...
... and order online ► www.igus.eu/en/CF10UL (for up to 10 cuts of the same type)

TPE Control cable Chainflex® CF98

- **for maximum load requirements and especially small radii up to 4 x d**
- **TPE outer jacket**
- **oil- and bio-oil-resistant**
- **PVC-free/halogen-free**
- **low-temperature-flexible**
- **hydrolysis-resistant and microbe-resistant**

Temperature range moved	**-35 °C to +90 °C, minimum bending radius 4 x d**
Temperature range 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), bio-oil-resistant (following VDMA 24568), Class 4
Halogen-free	Following EN 50267-2-1.
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
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. **CF9.02.03.INI:** brown, blue, black **CF9.03.04.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: dark-blue (similar to RAL 5011)
CE	Following 2006/95/EG
Lead free	Following EU guideline (RoHS) 2002/95/EC.
Clean room	According to ISO Class 1. Outer jacket material complies with CF9.15.07, tested by IPA according to standard 14644-1

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Class 7.4.4

Price index

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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 earthed conductor green-yellow **x =** without earthed conductor

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**

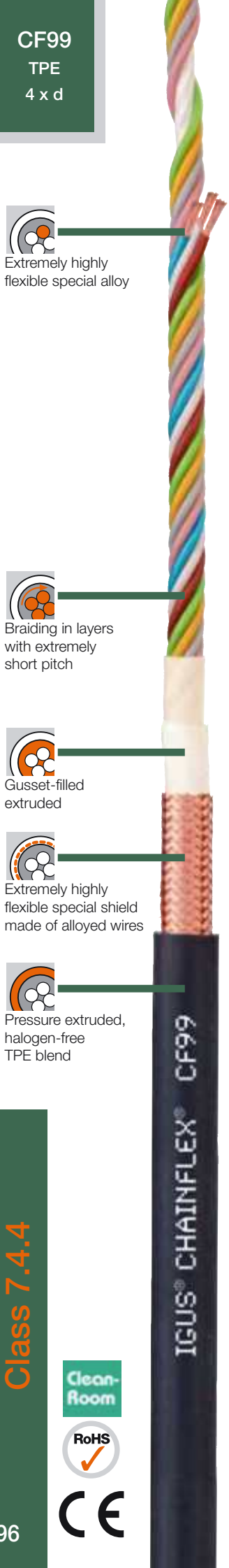
Please use www.chainflex.eu/en/CF98 for your online order.

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

Test data ▸ Page 32

Chainflex® CF98 for maximum load requirements and especially small radii at automatic doors.

CF99
TPE
4 x d



TPE Control cable Chainflex® CF99

- **for maximum load requirements and especially small radii up to 4 x d**
- **TPE outer jacket**
- **shielded**
- **oil- and bio-oil-resistant**
- **PVC-free/halogen-free**
- **low-temperature-flexible**

Temperature range moved	**-35 °C to +90 °C, minimum bending radius 4 x d**
Temperature range 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), bio-oil-resistant (following VDMA 24568), Class 4
Halogen-free	Following EN 50267-2-1.
Silicon-free	Free from silicon which can affect paint adhesion (following PV 3.10.7 – status 1992).
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.
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: dark-blue (similar to RAL 5011)
CE	Following 2006/95/EG

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Class 7.4.4

Clean-Room

RoHS

CE

Class 7.4.4

Price index

Lead free Following EU guideline (RoHS) 2002/95/EC.

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]
CF99.01.02	(2 x 0.14)C	5.5	14	33
CF99.01.03[1]	(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]	(7 x 0.14)C	7.5	32	62
CF99.01.08	(8 x 0.14)C	8.0	36	69
CF99.02.03[1]	(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]	(8 x 0.25)C	8.5	54	93
CF99.03.03[1]	(3 x 0.34)C	6.5	27	51
CF99.03.04[1]	(4 x 0.34)C	7.0	35	62
CF99.03.08[1]	(8 x 0.34)C	9.0	64	105

[1] Delivery time upon inquiry
Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.
G = with earthed conductor green-yellow **x =** without earthed conductor

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

Automatisierte Stapelanlage für Phosphorbildschirme: gerader Installationsraum, kleiner Biegeradius, 300.000 Doppelhübe pro Monat.

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