TPE Control cable | CF10

Image exemplary.

- For maximum mechanical load requirements
- TPE outer jacket
- Shielded
- Oil-resistant
- Bio-oil-resistant
- PVC-free/halogen-free
- Low-temperature-flexibility
- Hydrolysis/microbe-resistant

CFRIP® Strip cables 50 % faster

iF DESIGN AWARD 2016

Dynamic Information

Bend radius	**E-Chain®**	min. 5 x d
	flexible	min. 4 x d
	fixed	min. 3 x d
Temperature	**E-Chain®**	-31 °F to +212 °F (-35 °C to +100 °C)
	flexible	-58 °F to +212 °F (-50 °C to +100 °C)
	fixed	-67 °F to +212 °F (-55 °C to +100 °C)
v max.	**unsupported**	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
a max.		328.1 ft/s² (100 m/s²)
Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6

Cable structure

Conductor	Conductor consisting of bare copper wires (according to EN 60228).
Conductor insulation	Mechanically high-quality TPE mixture.
Conductor construction	**No. of conductors < 12:** Conductors cabled in a layer with short pitch length. **No. of conductors ≥ 12:** Conductors combined in bundles and cabled together around a high-tensile strength core, using short pitch lengths and specific pitch directions for a low-torsion cable structure.
Color code	**26-20 AWG:** Color code in accordance with DIN 47100. **18-12 AWG:** Black with white numbers, one conductor green-yellow. **CF10-03-05-INI:** brown, blue, black, white, green-yellow
Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
Overall shield	Extremely bending-resistant tinned copper braid. 90% optical coverage
Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Dark Blue (RAL 5011)
CFRIP®	Strip cables 50% faster: The tear strip is in the inner jacket Video ▶ www.igus.com/CFRIP

Electrical Information

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

Class 7.6.4.1

Requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**	1,312 ft +
Oil-resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	±180°			

Properties and approvals

UV resistance	High
Oil resistance	Oil resistant (following DIN EN 60811-404), bio-oil resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicon-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992).
Halogen-free	Following EN 50267-2-1
EAC	Certified according to no. TC RU C-DE.ME77.B.01254
Lead-free	Following 2011/65/EC (RoHS-II)
Cleanroom	According to ISO Class 1. Outer jacket material complies with CF9-15-07, tested by IPA according to standard 14644-1
CE	Following 2014/35/EG

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

Cycles*					5 million	7.5 million	10 million
Temperature, from/to [°F]	v max. [ft/s] unsupported	v max. [ft/s] gliding	a max. [ft/s^2]	Travel distance [ft]	*R* min. [factor x d]	*R* min. [factor x d]	*R* min. [factor x d]
-31 / -13					6.8	7.5	8.5
-13 / +194	32.81	19.69	328.1	> 1312	5	6	7
+194 / +212					6.8	7.5	8.5

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

Typical application areas

- For maximum mechanical load requirements
- Indoor and outdoor applications, UV-resistant
- Unsupported travel distances and for gliding applications up to 1312 ft (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

TPE Control cable | CF10

Class 7.6.4.1

Requirements	low	1	2	3	4	5	6	**7** highest
Travel distance	unsupported	1	2	3	4	5	**6**	1,312 ft +
Oil-resistance	none	1	2	3	**4** highest			
Torsion	none	**1**	2	3	±180°			

CF10
TPE
5 x d

Strip cables 50 % faster

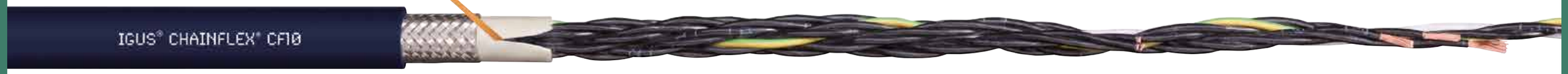

Image exemplary.

Part No.	AWG	Number of conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight	
			in.	mm	lbs/mft	kg/km	lbs/mft	kg/km
CF10-01-12	26	12 x 0.14	0.31	8.0	26.9	40	55.1	82
CF10-01-18	26	18 x 0.14	0.37	9.5	45.7	68	85.3	127
CF10-02-04	24	4 x 0.25	0.26	6.5	17.5	26	34.9	52
CF10-02-08	24	8 x 0.25	0.31	8.0	28.2	42	54.4	81
CF10-02-12	24	12 x 0.25	0.37	9.5	47.0	70	85.3	127
CF10-02-25	24	25 x 0.25	0.49	12.5	80.0	119	151.2	225
CF10-03-05-INI	22	5 x 0.34	0.28	7.0	24.2	36	43.7	65
CF10-05-04	20	4 x 0.5	0.28	7.0	26.2	39	46.4	69
CF10-05-05	20	5 x 0.5	0.30	7.5	30.9	46	53.1	79
CF10-05-07	20	7 x 0.5	0.33	8.5	40.3	60	69.2	103
CF10-05-12	20	12 x 0.5	0.47	12.0	75.9	113	133.7	199
CF10-05-18	20	18 x 0.5	0.53	13.5	102.8	153	176.7	263
CF10-05-25	20	25 x 0.5	0.59	15.0	133.0	198	225.1	335
CF10-07-04	18	4 G 0.75	0.30	7.5	34.3	51	58.5	87
CF10-07-05	18	5 G 0.75	0.31	8.0	41.0	61	66.5	99
CF10-07-07	18	7 G 0.75	0.37	9.5	63.2	94	97.4	145
CF10-07-12	18	12 G 0.75	0.49	12.5	98.1	146	165.3	246
CF10-07-20	18	20 G 0.75	0.59	15.0	151.9	226	247.3	368
CF10-07-25	18	25 G 0.75	0.65	16.5	181.4	270	302.4	450
CF10-10-02	17	2 x 1.0	0.30	7.5	26.2	39	48.4	72
CF10-10-03	17	3 G 1.0	0.30	7.5	34.3	51	55.8	83
CF10-10-04	17	4 G 1.0	0.31	8.0	43.0	64	69.2	103
CF10-10-05	17	5 G 1.0	0.33	8.5	49.7	74	80.6	120
CF10-10-07	17	7 G 1.0	0.39	10.0	77.9	116	120.3	179
CF10-10-12	17	12 G 1.0	0.53	13.5	125.0	186	202.9	302
CF10-10-18	17	18 G 1.0	0.63	16.0	176.1	262	278.9	415
CF10-10-25	17	25 G 1.0	0.71	18.0	231.2	344	369.6	550

Note: The mentioned outer diameters are maximum values.
G = with green-yellow earth core **x =** without earth core

Part No.	AWG	Number of conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight	
			in.	mm	lbs/mft	kg/km	lbs/mft	kg/km
CF10-15-04	16	4 G 1.5	0.35	9.0	66.5	99	97.4	145
CF10-15-05	16	5 G 1.5	0.39	10.0	80.0	119	118.3	176
CF10-15-07 [17]	16	7 G 1.5	0.45	11.5	106.8	159	157.9	235
CF10-15-12	16	12 G 1.5	0.61	15.5	174.0	259	262.7	391
CF10-15-18	16	18 G 1.5	0.79	20.0	267.4	398	419.3	624
CF10-25-04	14	4 G 2.5	0.45	11.5	100.1	149	150.5	224
CF10-25-07 [17]	14	7 G 2.5	0.53	13.5	164.0	244	244.6	364
CF10-25-12	14	12 G 2.5	0.75	19.0	276.2	411	438.8	653
CF10-40-04	12	4 G 4.0	0.49	12.5	149.2	222	213.0	317
CF10-40-05	12	5 G 4.0	0.53	13.5	182.1	271	259.4	386

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

Order example: CF10-10-12 – In your desired length
CF10 Chainflex® series -10 Code nominal cross section -12 Number of conductors

Online order: www.chainflex.com/CF10

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

Configurators ▶ www.igus.com/CF10