Control cable | TPE | Chainflex® CF10

10,000,000 Cycles guaranteed

5 x d Bend radius E-Chain®

1312 ft Travel distance E-Chain®

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

Example image

Dynamic Information

Bend radius	**E-Chain® linear**	min. 5 x d
	flexible	min. 4 x d
	fixed	min. 3 x d
Temperature	**E-Chain® linear**	-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

Conductors	Conductor consisting of bare copper wires (according to DIN EN 60228).
Conductor insulation	Mechanically high-quality TPE mixture.
Conductor construction	**Number of conductors < 12:** Conductors cabled in a layer with short pitch length. **Number of conductors ≥ 12:** Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
Color code	**24-20 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 (similar to RAL 5011)
CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ▶ www.igus.com/CFRIP

Electrical Information

Nominal voltage	300 V
Test voltage	2000 V (following DIN EN 50395)

Class 7.6.4.1

Basic 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
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
EAC	Certificate No. RU C-DE.ME77.B.01254 (TR ZU)
Lead-free	Following 2011/65/EC (RoHS-II)
Clean room	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU

Guaranteed service life (details see page 22-23)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	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	5	6	7
+194/+212	6.8	7.5	8.5

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Clean room, semiconductor insertion, outdoor cranes, low temperature applications

Control cable | TPE | Chainflex® CF10

Strip cables 50% faster

Class 7.6.4.1

Basic 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

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
		[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF10-01-12	26	12 x 0.14	0.31	8.0	25.5	38	53.1	79
CF10-01-18	26	18 x 0.14	0.37	9.5	43.0	64	83.3	124
CF10-02-04	24	4 x 0.25	0.26	6.5	16.1	24	33.6	50
CF10-02-08	24	8 x 0.25	0.31	8.0	26.9	40	53.1	79
CF10-02-12	24	12 x 0.25	0.37	9.5	44.3	66	82.7	123
CF10-02-25	24	25 x 0.25	0.49	12.5	75.3	112	146.5	218
CF10-03-05-INI	22	5 x 0.34	0.28	7.0	22.8	34	42.3	63
CF10-05-04	20	4 x 0.5	0.28	7.0	24.9	37	45.0	67
CF10-05-05	20	5 x 0.5	0.30	7.5	28.9	43	51.7	77
CF10-05-07	20	7 x 0.5	0.33	8.5	38.3	57	67.2	100
CF10-05-12	20	12 x 0.5	0.47	12.0	71.2	106	129.0	192
CF10-05-18	20	18 x 0.5	0.53	13.5	96.8	144	170.0	253
CF10-05-25	20	25 x 0.5	0.59	15.0	125.0	186	217.0	323
CF10-07-04	18	4 G 0.75	0.30	7.5	32.3	48	56.4	84
CF10-07-05	18	5 G 0.75	0.31	8.0	39.0	58	64.5	96
CF10-07-07	18	7 G 0.75	0.37	9.5	59.8	89	94.1	140
CF10-07-12	18	12 G 0.75	0.49	12.5	91.4	136	159.3	237
CF10-07-20	18	20 G 0.75	0.59	15.0	142.5	212	237.2	353
CF10-07-25	18	25 G 0.75	0.65	16.5	170.0	253	291.0	433
CF10-10-02	17	2 x 1.0	0.30	7.5	24.9	37	47.0	70
CF10-10-03	17	3 G 1.0	0.30	7.5	32.3	48	53.8	80
CF10-10-04	17	4 G 1.0	0.31	8.0	41.0	61	66.5	99
CF10-10-05	17	5 G 1.0	0.33	8.5	47.0	70	77.9	116
CF10-10-07	17	7 G 1.0	0.39	10.0	73.2	109	115.6	172
CF10-10-12	17	12 G 1.0	0.53	13.5	117.6	175	194.9	290
CF10-10-18	17	18 G 1.0	0.63	16.0	165.3	246	267.4	398
CF10-10-25	17	25 G 1.0	0.71	18.0	216.4	322	354.8	528
CF10-15-04	16	4 G 1.5	0.35	9.0	63.2	94	94.1	140
CF10-15-05	16	5 G 1.5	0.39	10.0	75.3	112	112.9	168
CF10-15-07 [17)]	16	7 G 1.5	0.45	11.5	100.1	149	151.2	225
CF10-15-12	16	12 G 1.5	0.61	15.5	163.3	243	252.0	375
CF10-15-18	16	18 G 1.5	0.79	20.0	250.0	372	402.5	599
CF10-25-04	14	4 G 2.5	0.43	11.0	94.1	140	144.5	215
CF10-25-07 [17)]	14	7 G 2.5	0.53	13.5	153.2	228	234.5	349
CF10-25-12	14	12 G 2.5	0.75	19.0	258.7	385	421.3	627
CF10-40-04	12	4 G 4.0	0.49	12.5	139.8	208	203.6	303
CF10-40-05	12	5 G 4.0	0.53	13.5	170.7	254	248.0	369

[17)] When using the cables with "7 G 1.5 mm²" and "7 G 2.5 mm²" minimum bend radius must be 17.5 x d with gliding travel distance ≥ 5 m.
Note: The given outer diameters are maximum values.
G = with green-yellow earth core **x =** without earth core

Order example: CF10-01-12 – To your desired length
CF10 Chainflex® series -01 Code nominal cross section -12 Number of conductors

Online order ▶ www.chainflex.com/CF10

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

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