

Control cable | PUR | chainflex® CF77.UL.D

- 36** 10 million Guaranteed double strokes
- 6.8 x d** Bend radius e-chain®
- 100 m** Travel distance, e-chain®

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

Dynamic information

Bend radius	e-chain® linear flexible	min. 6.8 x d min. 5 x d
	fixed	min. 4 x d
Temperature	e-chain® linear flexible	-25 °C up to +80 °C -40 °C up to +80 °C (following DIN EN 60811-504)
	fixed	-50 °C up to +80 °C (following DIN EN 50305)
v max.	unsupported	10 m/s
	gliding	5 m/s
a max.		80 m/s ²
Travel distance		Unsupported travels and up to 100 m for gliding applications, Class 5
Torsion		Torsion ±180°, with 1m cable length, Class 3 (except for 5-core types ≥ 4.0 mm ² ▶ Product range table)

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Number of cores < 12: Cores wound in a layer with short pitch length. Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	Cores < 0.5 mm²: Colour code in accordance with DIN 47100. Cores ≥ 0.5 mm²: Black cores with white numbers, one green-yellow core. CF77.UL.02.03.INI: brown, blue, black CF77.UL.03.04.INI: brown, blue, black, white
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2). Colour: Window-grey (similar to RAL 7040) Variants ▶ Product range table

Electrical information

Nominal voltage	300/500 V (following DIN VDE 0298-3)
Testing voltage	2000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 400 m
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.3.3

Properties and approvals

UV resistance	Medium
Oil resistance	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
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL/CSA	Cores < 0.5 mm²: Style 10493 and 20233, 300 V, 80 °C Cores ≥ 0.5 mm²: Style 11323 and 21223, 1000 V, 80 °C
NFPA	Following NFPA 79-2018, chapter 12.9
DNV-GL	Type approval certificate No. 61 935-14 HH
EAC	Certificate No. RU C-DE.ME77.B.01254 (TR ZU)
CTP	Certificate No. C-DE.PB49.B.00416 (Fire protection)
CEI	Following CEI 20-35
Lead-free	Following 2011/65/EC (RoHS-II)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU

Guaranteed service life (details see page 22-23)

Double strokes*	5 million		7.5 million		10 million	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	8.5	10	9.5	11	10.5	12
-15/+70	6.8	7.5	7.5	8.5	8.5	9.5
+70/+80	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus.eu/chainflexlife

Typical mechanical application areas

- For heavy duty applications, Class 5
- Unsupported travels and up to 100 m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, Storage and retrieval units for high-bay warehouses, Packaging industry, quick handling, refrigerating sector



low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400 m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.02.03.INI ¹²⁾	3x0.25	5.0	8	29
CF77.UL.02.04.D	4x0.25	5.5	11	35
New CF77.UL.02.05.D	5x0.25	6.0	13	41
New CF77.UL.02.07.D	7x0.25	6.5	18	51
CF77.UL.02.12.D	12x0.25	9.0	30	77
CF77.UL.02.18.D	18x0.25	10.5	45	114
New CF77.UL.02.25.D	25x0.25	11.5	63	154
CF77.UL.03.04.INI ¹²⁾	4x0.34	6.0	16	39
CF77.UL.05.04.D	4G0.5	6.0	21	43
CF77.UL.05.05.D	5G0.5	6.5	26	50
CF77.UL.05.07.D	7G0.5	7.5	39	78
CF77.UL.05.12.D	12G0.5	10.0	63	129
CF77.UL.05.18.D	18G0.5	12.0	94	179
CF77.UL.05.25.D	25G0.5	14.0	129	238
CF77.UL.05.30.D	30G0.5	15.0	155	315
CF77.UL.07.03.D	3G0.75	6.5	23	54
CF77.UL.07.04.D	4G0.75	7.0	30	63
CF77.UL.07.05.D	5G0.75	7.5	38	73
CF77.UL.07.07.D	7G0.75	8.5	53	103
CF77.UL.07.12.D	12G0.75	12.0	90	187
CF77.UL.07.18.D	18G0.75	13.5	134	251
CF77.UL.07.20.D	20G0.75	14.5	149	282
CF77.UL.07.25.D	25G0.75	16.0	186	356
CF77.UL.07.36.D	36G0.75	19.0	279	505
CF77.UL.07.42.D	42G0.75	21.0	341	580
CF77.UL.10.02.D	2x1.0	6.5	20	53
CF77.UL.10.03.D	3G1.0	6.5	30	63
CF77.UL.10.04.D	4G1.0	7.0	40	77
CF77.UL.10.05.D	5G1.0	8.0	50	94
CF77.UL.10.07.D	7G1.0	9.0	70	115
CF77.UL.10.12.D	12G1.0	12.5	119	225
CF77.UL.10.18.D	18G1.0	15.0	178	326
CF77.UL.10.25.D	25G1.0	17.5	248	436
CF77.UL.10.42.D	42G1.0	22.5	433	679

¹²⁾ Colour outer jacket: Colza yellow (similar to RAL 1021)

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

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.15.03.D	3G1.5	7.5	45	83
CF77.UL.15.04.D	4G1.5	8.0	60	102
CF77.UL.15.05.D	5G1.5	8.5	75	121
CF77.UL.15.07.D ¹⁷⁾	7G1.5	10.5	104	167
CF77.UL.15.12.D	12G1.5	14.0	178	296
CF77.UL.15.18.D	18G1.5	17.0	267	459
CF77.UL.15.25.D	25G1.5	19.5	371	605
CF77.UL.15.36.D	36G1.5	23.5	551	848
CF77.UL.15.42.D ¹¹⁾	42G1.5	26.5	676	987
CF77.UL.25.03.D	3G2.5	8.5	75	119
CF77.UL.25.04.D	4G2.5	9.5	100	149
CF77.UL.25.05.D	5G2.5	10.5	124	183
CF77.UL.25.07.D ¹⁷⁾	7G2.5	12.5	174	259
CF77.UL.25.12.D	12G2.5	17.0	297	451
CF77.UL.40.04.D ⁹⁰⁾	4G4.0	11.5	165	245
CF77.UL.40.05.D ⁹⁰⁾	5G4.0	12.0	198	288
CF77.UL.60.05.D ⁹⁰⁾	5G6.0	14.0	297	407

¹¹⁾ Phase-out model

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.

⁹⁰⁾ Torsion ±90°

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

Order example: CF77.UL.02.04.D – to your desired length (0.5 m steps)
CF77.UL.D chainflex® series .02 Code nominal cross section .04 Number of cores

Online order ► www.chainflex.eu/CF77.UL.D

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

