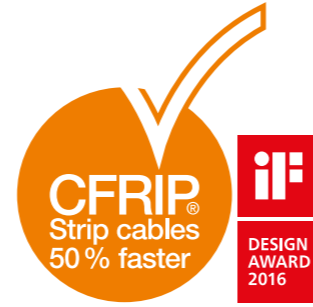


PUR Control cable | CF78-UL

- For high mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- Notch-resistant
- PVC-free/halogen-free
- Hydrolysis/microbe-resistant



Dynamic Information

	Bend radius	E-Chain®	min. 6.8 x d
		flexible	min. 5 x d
		fixed	min. 4 x d
	Temperature	E-Chain®	-13 °F to +176 °F (-25 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.		262.5 ft/s² (80 m/s²)
	Travel distance	Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5	

Cable structure

	Conductors	Conductor consisting of bare copper wires (according to 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 cabled together around a high-tensile strength core, using short pitch lengths and specific pitch directions for a low-torsion cable structure.
	Color code	24-22 AWG: Color code in accordance with DIN 47100. 20-12 AWG: Black with white numbers, one conductor green-yellow TPE mixture adapted to suit the requirements in E-Chains®.
	Inner jacket	
	Overall shield	Bending-resistant tinned copper braid. 80% optical coverage
	Outer jacket	Low-adhesion, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN VDE 0282 Part 10). Color: Window-gray (similar to RAL 7040)
	CFRIP®	Strip cables 50% faster: The tear strip is in the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

	Nominal voltage	24-22 AWG: 300 V 20-4 AWG: 1000 V
	Test voltage	2000 V (following DIN EN 50396)

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°				

Class 5.5.3.1

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 resistance	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 EN 50267-2-1
	UL/CSA	24-22 AWG: Style 10493 and 20233, 300 V, 80 °C 20-12 AWG: Style 11323 and 21223, 1000 V, 80 °C
	NFPA 79	Complies to NFPA 79-2015 chapter 12.9
	DNV-GL	Certified according to GL type testing – Certificate no.: 61 935-14 HH
	EAC	Certified according to no. TC RU C-DE.ME77.B.01254
	CTP	Certified according to no. C-DE.PB49.B.00416
	CEI	Following CEI 20-35
	Lead-free	Following 2011/65/EC (RoHS-II)
	Cleanroom	According to ISO Class 1. Outer jacket material complies with CF77-UL-05-12-D, tested by IPA according to standard 14644-1
	CE	Following 2014/35/EG

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

Cycles*	Temperature, from/to [°F]	Travel distance [ft]	5 million		7.5 million		10 million	
			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]
-13 / +5			< 32.81 ft	≥ 32.81 ft	< 32.81 ft	≥ 32.81 ft	< 32.81 ft	≥ 32.81 ft
+5 / +158		≤ 328	6.8	7.5	7.5	8.5	8.5	9.5
+158 / +176			7.5	10	9.5	11	10.5	12

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

Typical application areas

- For high mechanical load requirements
- Indoor and outdoor applications with average sun radiation
- Unsupported travel distances and for gliding applications up to 328 ft (100 m)
- Machining units/machine tools, Storage and retrieval units for high-bay warehouses, Packaging industry, quick handling, refrigerating sector



PUR Control cable | CF78-UL

Class 5.5.3.1

Requirements
Travel distance
Oil-resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	1,312 ft +
none	1	2	3	4	highest			
none	1	2	3	±180°				



Image exemplary.

Part No.	AWG	Number of conductors and rated cross section [mm ²]	Outer diameter max.		Copper index		Weight	
			in.	mm	lbs/mft	kg/km	lbs/mft	kg/km
CF78-UL-05-04	20	4 G 0.5	0.31	8.0	26.9	40	53.1	79
CF78-UL-05-05	20	5 G 0.5	0.31	8.0	32.3	48	63.2	94
CF78-UL-05-07	20	7 G 0.5	0.37	9.5	41.7	62	82.7	123
CF78-UL-05-09	20	9 G 0.5	0.43	11.0	54.4	81	99.5	148
CF78-UL-05-12	20	12 G 0.5	0.49	12.5	65.2	97	139.1	207
CF78-UL-05-18	20	18 G 0.5	0.57	14.5	104.8	156	172.7	257
CF78-UL-05-25	20	25 G 0.5	0.63	16.0	121.0	180	245.9	366
CF78-UL-07-03	18	3 G 0.75	0.31	8.0	29.6	44	53.1	79
CF78-UL-07-04	18	4 G 0.75	0.33	8.5	34.9	52	66.5	99
CF78-UL-07-05	18	5 G 0.75	0.37	9.5	43.0	64	72.6	108
CF78-UL-07-07	18	7 G 0.75	0.41	10.5	58.5	87	98.1	146
CF78-UL-07-12	18	12 G 0.75	0.53	13.5	97.4	145	169.3	252
CF78-UL-07-18	18	18 G 0.75	0.61	15.5	139.1	207	246.6	367
CF78-UL-07-36	18	36 G 0.75	0.87	22.0	279.5	416	489.2	728
CF78-UL-07-42 ¹⁾	18	42 G 0.75	0.96	24.5	328.6	489	537.6	800
CF78-UL-10-03	17	3 G 1.0	0.33	8.5	35.6	53	60.5	90
CF78-UL-10-04	17	4 G 1.0	0.35	9.0	43.7	65	71.9	107
CF78-UL-10-05	17	5 G 1.0	0.37	9.5	52.4	78	83.3	124
CF78-UL-10-07	17	7 G 1.0	0.43	11.0	73.9	110	114.2	170
CF78-UL-10-12	17	12 G 1.0	0.57	14.5	119.6	178	206.3	307
CF78-UL-10-18 ¹⁾	17	18 G 1.0	0.67	17.0	172.0	256	284.9	424
CF78-UL-10-25	17	25 G 1.0	0.79	20.0	233.2	347	381.0	567
CF78-UL-15-03	16	3 G 1.5	0.37	9.5	48.4	72	89.4	133
CF78-UL-15-04	16	4 G 1.5	0.39	10.0	60.5	90	93.4	139
CF78-UL-15-05	16	5 G 1.5	0.41	10.5	77.3	115	111.5	166
CF78-UL-15-07 ¹⁷⁾	16	7 G 1.5	0.49	12.5	102.8	153	151.9	226
CF78-UL-15-12	16	12 G 1.5	0.63	16.0	167.3	249	270.8	403
CF78-UL-15-18	16	18 G 1.5	0.75	19.0	247.3	368	379.0	564
CF78-UL-15-25	16	25 G 1.5	0.89	22.5	332.6	495	507.3	755
CF78-UL-15-36 ¹⁾	16	36 G 1.5	1.04	26.5	480.5	715	770.7	1147
CF78-UL-15-42 ¹⁾	16	42 G 1.5	1.16	29.5	594.0	884	913.9	1360

¹⁾ Delivery time upon request

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

Part No.	AWG	Number of conductors and rated cross section [mm ²]	Outer diameter max.		Copper index		Weight	
			in.	mm	lbs/mft	kg/km	lbs/mft	kg/km
CF78-UL-25-04	14	4 G 2.5	0.45	11.5	99.5	148	142.5	212
CF78-UL-25-05	14	5 G 2.5	0.49	12.5	118.9	177	166.0	247
CF78-UL-25-07 ¹⁷⁾	14	7 G 2.5	0.57	14.5	164.6	245	235.2	350
CF78-UL-40-04 ¹⁾	12	4 G 4.0	0.55	14.0	145.8	217	229.8	342

¹⁾ Delivery time upon request

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: **CF78-UL-15-18** – In your desired length
CF78-UL Chainflex® series -15 Code nominal cross section -18 Number of conductors



Online order: www.chainflex.com/CF78



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



Configurators ► www.igus.com/CF78

