

# Control cable | PUR | chainflex® CF78.UL

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

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

## Dynamic information

<b>Bend radius</b>	<b>e-chain® linear flexible</b>	minimum 6.8 x d
	<b>fixed</b>	minimum 5 x d
<b>Temperature</b>	<b>e-chain® linear flexible</b>	-25°C up to +80°C
	<b>fixed</b>	-40°C up to +80°C (following DIN EN 60811-504)
<b>v max.</b>	<b>unsupported</b>	10m/s
<b>a max.</b>	<b>gliding</b>	5m/s
<b>Travel distance</b>	Unsupported travels and up to 100m for gliding applications, Class 5	

## Cable structure

<b>Conductor</b>	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
<b>Core insulation</b>	Mechanically high-quality TPE mixture.
<b>Core structure</b>	<b>Number of cores &lt; 12:</b> Cores wound in a layer with short pitch length. <b>Number of cores ≥ 12:</b> 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.
<b>Core identification</b>	Black cores with white numbers, one green-yellow core.
<b>Inner jacket</b>	TPE mixture adapted to suit the requirements in e-chains®.
<b>Overall shield</b>	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
<b>Outer jacket</b>	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)
<b>CFRIP®</b>	Strip cables faster: a tear strip is moulded into the inner jacket Video ► <a href="http://www.igus.eu/CFRIP">www.igus.eu/CFRIP</a>

## Electrical information

<b>Nominal voltage</b>	300/500V (following DIN VDE 0298-3) <b>Number of cores &lt; 12:</b> <b>Cores &lt; 0.5mm²:</b> 300V (following UL) <b>Cores ≥ 0.5mm²:</b> 1000V (following UL) <b>Number of cores ≥ 12:</b> 1000V (following UL)
<b>Testing voltage</b>	2,000V (following DIN EN 50395)

Example image

igus® chainflex® CF78.UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2023

EU2023



Basic requirements  
Travel distance  
Oil resistance  
Torsion

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

## Class 5.5.3.1

### Properties and approvals

<b>UV resistance</b>	Medium
<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-10-2), Class 3
<b>Offshore</b>	MUD-resistant following NEK 606 - status 2016
<b>Flame-retardant</b>	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
<b>Halogen-free</b>	Following DIN EN 60754
<b>UL verified</b>	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
<b>UL/CSA AWM</b>	See data sheet for details ► <a href="http://www.igus.eu/CF78UL">www.igus.eu/CF78UL</a>
<b>NFPA</b>	Following NFPA 79-2018, chapter 12.9
<b>DNV</b>	Type Approval Certificate TAE00003X1
<b>EAC</b>	Certificate No. RU C-DE.ME77.B.00300/19
<b>REACH</b>	In accordance with regulation (EC) No. 1907/2006 (REACH)
<b>Lead-free</b>	Following 2011/65/EC (RoHS-II/RoHS-III)
<b>Cleanroom</b>	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
<b>CE</b>	Following 2014/35/EU
<b>UK CA</b>	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

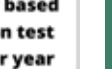
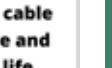
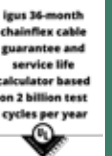
### Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
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](http://www.igus.eu/chainflexlife)

### Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- 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



UL-verified chainflex® guarantee ... [www.igus.eu/ul-verified](http://www.igus.eu/ul-verified)

# Control cable | PUR | chainflex® CF78.UL

Strip cables 50% faster with CFRIP® tear strip

igus® chainflex® CF78.UL

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]
CF78.UL.05.04	(4G0.5)C	8.0	38	77
CF78.UL.05.05	(5G0.5)C	8.0	45	91
CF78.UL.05.07	(7G0.5)C	9.5	59	115
CF78.UL.05.09	(9G0.5)C	11.0	77	143
CF78.UL.05.12	(12G0.5)C	12.5	92	202
CF78.UL.05.18	(18G0.5)C	14.5	146	248
CF78.UL.05.25	(25G0.5)C	16.0	168	354
CF78.UL.07.03	(3G0.75)C	8.0	42	79
CF78.UL.07.04	(4G0.75)C	8.5	49	96
CF78.UL.07.05	(5G0.75)C	9.5	61	112
CF78.UL.07.07	(7G0.75)C	10.5	83	151
CF78.UL.07.12	(12G0.75)C	13.5	136	249
CF78.UL.07.18	(18G0.75)C	15.5	194	354
CF78.UL.07.36	(36G0.75)C	22.0	390	702
CF78.UL.10.03	(3G1.0)C	8.5	50	96
CF78.UL.10.04	(4G1.0)C	9.0	62	112
CF78.UL.10.05	(5G1.0)C	9.5	74	129
CF78.UL.10.07	(7G1.0)C	11.0	104	176
CF78.UL.10.12	(12G1.0)C	14.5	166	300
CF78.UL.10.18	(18G1.0)C	17.0	240	407
CF78.UL.10.25	(25G1.0)C	20.0	325	545
CF78.UL.15.03	(3G1.5)C	9.5	68	122
CF78.UL.15.04	(4G1.5)C	10.0	86	145
CF78.UL.15.05	(5G1.5)C	9.5	108	159
CF78.UL.15.07 <sup>17)</sup>	(7G1.5)C	11.5	144	217
CF78.UL.15.12	(12G1.5)C	16.0	233	387
CF78.UL.15.18	(18G1.5)C	19.0	346	541
CF78.UL.15.25	(25G1.5)C	22.5	464	724
CF78.UL.15.36	(36G1.5)C	26.5	663	1095
CF78.UL.15.42	(42G1.5)C	29.5	820	1296
CF78.UL.25.03	(3G2.5)C	10.0	106	174
CF78.UL.25.04	(4G2.5)C	11.5	140	203
CF78.UL.25.05	(5G2.5)C	12.0	166	235
CF78.UL.25.07 <sup>17)</sup>	(7G2.5)C	14.5	230	334
CF78.UL.25.12	(12G2.5)C	19.0	382	585
CF78.UL.40.04	(4G4.0)C	13.0	203	328

<sup>17)</sup> When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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

EPLAN download, configurators ► [www.igus.eu/CF78UL](http://www.igus.eu/CF78UL)

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Order example: **CF78.UL.05.04** - to your desired length (0.5m steps)  
CF78.UL chainflex® series .05 Code nominal cross section .04 Number of cores

Order online ► [www.igus.eu/CF78UL](http://www.igus.eu/CF78UL)

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



### Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: [www.igus.eu/cf-case](http://www.igus.eu/cf-case)



### cost down...



...life up

### Reduce cost, improve technology, now!

Do the chainflex® price check ...  
[www.igus.eu/cf-price-check](http://www.igus.eu/cf-price-check)

... for example: reduce cost with CF6 ...



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



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