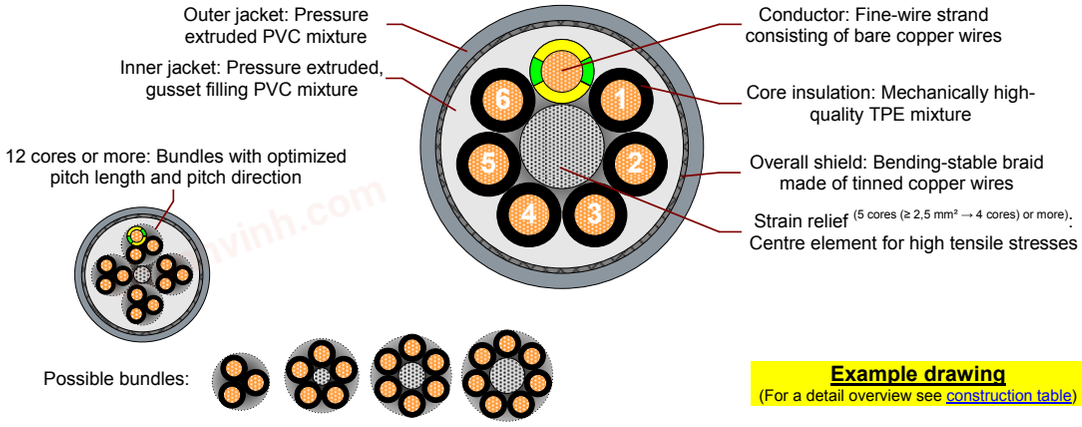
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chainflex® cable works. CF140.UL

PVC - e-chain® - control cable for medium load requirements (class 4.4.1): shielded as well as flame-retardant.



Possible bundles:

Example drawing
(For a detail overview see construction table)

Core design:

Conductor: Fine-wire strand consisting of bare copper wires (following DIN EN 60228).

Core insulation: Mechanically high-quality TPE mixture.

Core identification:
≤ 0,34 mm²: Colour code in accordance with DIN 47100. (see colour code table)
≥ 0,5 mm²: Black cores with white numerals & one core greenyellow*.
** 3 cores and more.*

Shield design:

Material: Bending-stable braid made of tinned copper wires.

Shield coverage: **Linear:** approx. 55 % **Optical**: approx. 80 %

Jacket design:

Inner jacket: PVC mixture adapted to suit the requirements in e-chains®.

Outer jacket: Low-adhesion mixture on the basis of PVC (following DIN VDE 0281-5), abrasion- and bending-stable, adapted to suit the requirements in e-chains®.
- flame-retardant (according to IEC 60332-1-2, CEI 20-35, VW-1, FT-1)
- silicon-free (following PV 3.10.7 - status 1992)
- lead-free (following 2011/65/EU (RoHS-II))
- clean room ISO class 1 (according to DIN ISO 14644-1 tested by IPA)
- UV-resistance: Low

Colour outer jacket: Silver grey (similar to RAL 7001)

Cable marking (Black):
„00000 m“** igus chainflex CF140.--.--.UL① -----② ---/---V③ E310776
cRUus AWM Style 20200 VW-1 AWM I/II A/B 60°C 300V FT-1 EAC/CTP
CE RoHS-II conform www.igus.de +++ chainflex cable works +++

*** **Length printing:** Not calibrated. Only intended as an orientation aid.*
① / ②: Cable identification according to part no. (see technical table for details).
③: Printing of the Nominal Voltage (see general electrical values for details).
Ex.: CF140.02.12.UL: ⇒ ...x CF140.02.12.UL (12x0,25)C 300/300V E...

General mechanical values:
(for individual details see technical table)

Guaranteed lifetime for this series according to the "chainflex® guarantee club" conditions (see chainflex® catalogue and www.igus.eu/chainflex-guarantee)							
Double strokes*		**5 million**		**7,5 million**		**10 million**	
Temperature (from/to) [°C]	**Travel distance (TD)**	Min. bending radius for e-chain® use [Factor multiplied by outer diameter (d)]					
		TD < 10 m	TD ≥ 10 m	TD < 10 m	TD ≥ 10 m	TD < 10 m	TD ≥ 10 m
+5⁺ / +15	≤ 50 m	10,0	12,5	11,0	13,5	12,0	14,5
+15 / +60		7,5	10,0	8,5	11,0	9,5	12,0
+60 / +70		10,0	12,5	11,0	13,5	12,0	14,5

**: Minimum guarantee lifetime of the cable under the specified conditions. ✦: -5 °C at ≤ 50.000 strokes (following DIN EN 60811)*
The installation of the cable is recommended within the middle temperature range.

Temperature range	-20 °C ←	+5 °C ←	+15 °C ←→ +60 °C	→ +70 °C
Min. bending radius for fixed installation	10,0 x d	7,5 x d	5,0 x d	7,5 x d
Torsion (at 1 m cable length)	---	±0 °	±30 °	±0 °

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Date	Author
04 Feb. 2015	D. Borsberg

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igus® chainflex® CF140.UL
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PVC - e-chain® - control cable for medium load requirements (class 4.4.1): shielded as well as flame-retardant.

General electrical values:
(for individual details see technical table)

Nominal voltage:	**Less than 12 cores (≤ 0,34 mm²):**	300 / 300 V
	Less than 12 cores (≥ 0,5 mm²):	300 / 500 V
	12 cores or more:	300 / 300 V
	⇒ (following DIN VDE 0245)	
Test voltage:	2 kV (following VDE 0281-2)	
Certifications:	cULus: (E310776: Style 10493 & 20200, 300 V / 60 °C)	
Guidelines:	CE, NFPA (following 79-2012 chapter 12.9), EAC & TR (CTP)	

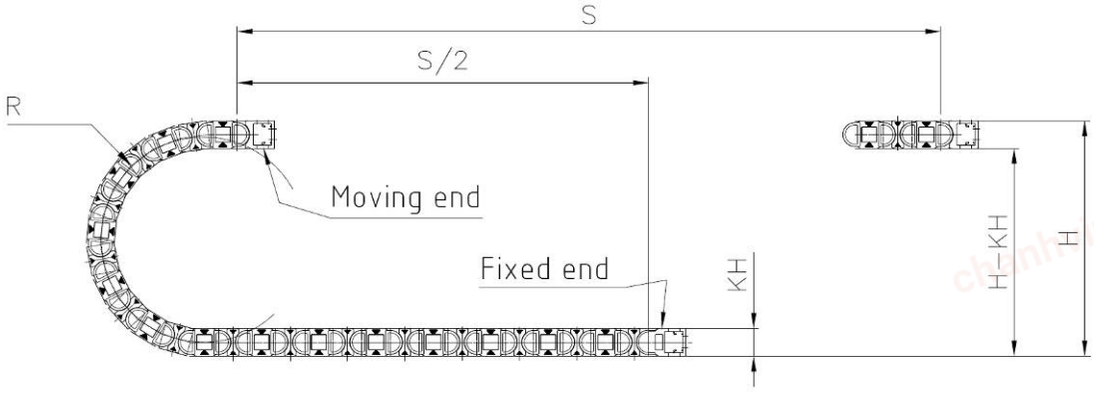
Dynamic values:

Max. speed for e-chain® use:* **	**Unsupported:** v = 3 m / s	**Gliding (up to 50 m):** v = 2 m / s
Max. acceleration for e-chain® use:* **	a = 20 m / s²	

*** *These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.*

Typical lab test setup for this cable group:

Test bending radius R:	approx. 48 - 300 mm
Test travel S:	approx. 1 - 15 m
Test period:	min. 2 - 4 million double strokes
Test speed:	approx. 0,5 - 2 m / s
Test acceleration:	approx. 0,5 - 1,5 m / s²



e-chain® - control cable for medium load requirements:
- for areas of application without influence of oil
- for unsupported travel distances and up to 50 m in gliding applications
- CE, RoHS-II, cULus, NFPA, EAC & TR (CTP)

Typical application areas:
Preferably indoor applications.
Wood/stone processing, packaging industry, supply system, handling, adjusting equipment.

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igus® chainflex® CF140.UL
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Image exemplary

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PVC - e-chain® - control cable for medium load requirements (class 4.4.1): shielded as well as flame-retardant.

Technical tables:

Mechanical values:

① Part no.	② Number of cores & nominal cross section [mm²]****	External diameter (d)***** [max. mm]	Copper index [kg / km]	Weight [kg / km]
CF140.02.12.UL	(12x0,25)C	10,5	76	118
CF140.03.05.UL	(5x0,34)C	7,5	37	74
CF140.05.03.UL	(3G0,5)C	7,0	34	74
CF140.05.05.UL	(5G0,5)C	8,0	48	94
CF140.05.18.UL	(18G0,5)C	14,5	156	257
CF140.05.36.UL	(36G0,5)C	18,5	274	485
CF140.07.03.UL	(3G0,75)C	8,0	44	87
CF140.07.04.UL	(4G0,75)C	8,5	54	104
CF140.07.05.UL	(5G0,75)C	9,0	64	118
CF140.07.07.UL	(7G0,75)C	10,0	87	156
CF140.07.12.UL	(12G0,75)C	13,0	145	273
CF140.07.18.UL	(18G0,75)C	15,5	207	372
CF140.07.25.UL	(25G0,75)C	18,0	278	497
CF140.07.36.UL	(36G0,75)C	22,0	416	764
CF140.07.42.UL	(42G0,75)C	24,0	489	837
CF140.10.02.UL	(2x1,0)C	8,0	37	88
CF140.10.03.UL	(3G1,0)C	8,5	54	103
CF140.10.04.UL	(4G1,0)C	9,0	65	114
CF140.10.05.UL	(5G1,0)C	9,5	78	132
CF140.10.07.UL	(7G1,0)C	10,5	110	182
CF140.10.12.UL	(12G1,0)C	14,0	178	307
CF140.10.18.UL	(18G1,0)C	17,5	256	430
CF140.10.25.UL	(25G1,0)C	19,5	347	584
CF140.15.03.UL	(3G1,5)C	9,0	72	124
CF140.15.04.UL	(4G1,5)C	9,5	90	146
CF140.15.05.UL	(5G1,5)C	10,5	115	175
CF140.15.07.UL	(7G1,5)C	12,0	153	235
CF140.15.12.UL	(12G1,5)C	16,0	249	403
CF140.15.18.UL	(18G1,5)C	19,0	368	486
CF140.15.25.UL	(25G1,5)C	22,5	495	768
CF140.15.36.UL	(36G1,5)C	26,5	715	1202
CF140.15.42.UL	(42G1,5)C	29,5	841	1422
CF140.25.03.UL	(3G2,5)C	10,5	113	208
CF140.25.04.UL	(4G2,5)C	11,5	148	219

**** *G ⇒ Cable contains a greenyellow core.*
***** *External diameters are maximum values and may tend toward lower tolerance limits.*

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PVC - e-chain® - control cable for medium load requirements (class 4.4.1): shielded as well as flame-retardant.

Electrical values:

Nominal cross section [mm²]	Conductor resistance [approx. Ω / km] at 20 °C	Max. current rating [A] at 30 °C♦
(following)	DIN IEC 60344	DIN VDE 0298-4
0,25	79	5
0,34	57	7
0,5	39	10
0,75	26	14
1	19,5	17
1,5	13,3	21
2,5	8	30

♦ *The max. current rating depends on factors such as the individual environmental conditions and the type of installation.*

DIN 47100 colour code:

No.	Colour	No.	Colour	No.	Colour
01	white	13	whitegreen	25	whiteblack
02	brown	14	browngreen	26	brownblack
03	green	15	whiteyellow	27	greygreen
04	yellow	16	yellowbrown	28	yellowgrey
05	grey	17	whitegrey	29	pinkgreen
06	pink	18	greybrown	30	yellowpink
07	blue	19	whitepink	31	greenblue
08	red	20	pinkbrown	32	yellowblue
09	black	21	whiteblue	33	greenred
10	violet	22	brownblue	34	yellowred
11	greypink	23	whitered	35	greenblack
12	redblue	24	brownred	36	yellowblack

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igus® chainflex® CF140.UL

Image exemplary

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Construction table:

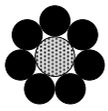
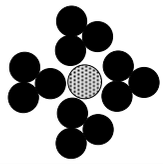
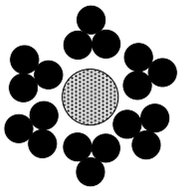
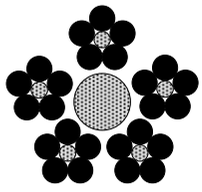
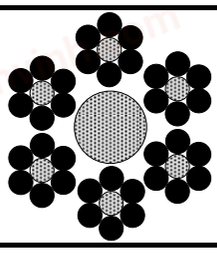
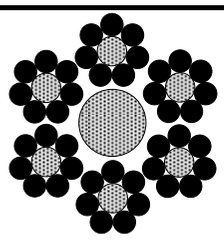
Part no. No. of cores	Core stranding	Part no. No. of cores	Core stranding
CF140.XX.02.UL 2		CF140.XX.03.UL 3	
CF140.XX.04.UL 4		CF140.XX.05.UL 5	
CF140.XX.07.UL 7		CF140.XX.12.UL 4x3	
CF140.XX.18.UL 6x3		CF140.XX.25.UL 5x5	
CF140.XX.36.UL 6x6		CF140.XX.42.UL 6x7	



Image exemplary

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