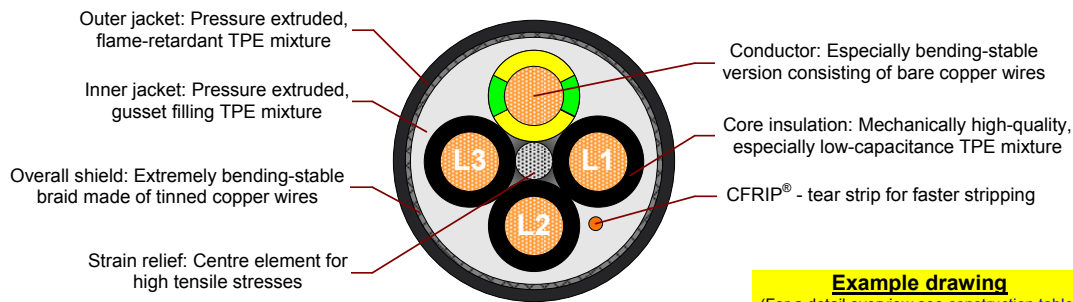


**TPE - e-chain<sup>®</sup> - power cable for maximum load requirements (class 6.6.4): shielded, oil- and biooil-resistant, flame-retardant, hydrolysis- and microbe-resistant as well as UV-resistant.**



## Core design:

**Conductor:**

- ≤ 6 mm<sup>2</sup>: Fine-wire strand in especially bending-stable version consisting of bare copper wires (following DIN EN 60228).
- ≥ 10 mm<sup>2</sup>: Conductor strand in especially bending-stable version made of bare copper wires (following DIN EN 60228).

**Core insulation:** Mechanically high-quality, especially low-capacitance TPE mixture.

**Core identification:** 3 or 4 black cores with white printing & one core greenyellow:  
**1. core:** U/L1/C/L+    **2. core:** V/L2    **3. core:** W/L3/D/L-    **4. core:** 4/N

## Shield design:

**Material:** Extremely bending-stable braid made of tinned copper wires.

**Shield coverage:** **Linear:** approx. 70 %    **Optical:** approx. 90 %

## Jacket design:

**Inner jacket:** TPE mixture adapted to suit the requirements in e-chains<sup>®</sup>.

**Outer jacket:** Low-adhesion mixture on the basis of TPE, especially abrasion-stable and highly bending-stable, adapted to suit the requirements in e-chains<sup>®</sup>.

- oil-resistant (following DIN EN 60811-2-1)
- biooil-resistant (following VDMA 24568 (tested by DEA with Plantocut 8 S-MB))
- flame-retardant (according to IEC 60332-1-2, CEI 20-35, VW-1, FT-1)
- hydrolysis-resistant (following DIN VDE 0282 Part 10 - A)
- microbe-resistant (following DIN EN 50396)
- 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: High

**Colour outer jacket:** Signal black (similar to RAL 9004)

**Cable marking (White):**

„00000 m<sup>m</sup>\* igus chainflex CF35.UL.---<sup>⊙</sup> ---<sup>⊙</sup> 600/1000V E310776  
 cRus AWM Style 21184 VW-1 AWM I/II A/B 80°C 1000V FT-1 GL 61  
 938-14 HH EAC/CTP CE RoHS-II conform www.igus.de  
 +++ chainflex cable works +++

\* **Length printing:** Not calibrated. Only intended as an orientation aid.

⊙ / ⊙: Cable identification according to part no. (see [technical table](#) for details).

Ex.: CF35.UL.15.04: ⇒ ...chainflex CF35.UL.15.04 (4G1,5)C 600/1000V...



Date	Author
12 Nov. 2014	D. Borsberg

TPE - e-chain<sup>®</sup> - power cable for maximum load requirements (class 6.6.4): shielded, oil- and biooil-resistant, flame-retardant, hydrolysis- and microbe-resistant as well as UV-resistant.

### General mechanical values:

(for individual details see [technical table](#))

Guaranteed lifetime for this series according to the "chainflex <sup>®</sup> guarantee club" conditions (see chainflex <sup>®</sup> catalogue and <a href="http://www.igus.eu/chainflex-guarantee">www.igus.eu/chainflex-guarantee</a> )				
Double strokes*		5 million	7,5 million	10 million
Temperature (from/to) [°C]	Travel distance (TD)	Min. bending radius for e-chain <sup>®</sup> use [Factor multiplied by outer diameter (d)] (Ex.: CF35.UL.05.04 at 20°C: 7,5 x 8,0 mm → Min. bending radius 60,0 mm)		
-35 / -25	≤ 400 m	10,0	11,0	12,0
-25 / +80		7,5	8,5	9,5
+80 / +90		10,0	11,0	12,0

\*: Minimum guarantee lifetime of the cable under the specified conditions.  
The installation of the cable is recommended within the middle temperature range.

Temperature range	-40 °C ←	-35 °C ←	-25 °C ↔ +80 °C	→ +90 °C
Min. bending radius for fixed installation	7,5 x d	6,8 x d	4,0 x d	6,8 x d
Torsion (at 1 m cable length)	---	±0 °	±30 °	±0 °

### General electrical values:

(for individual details see [technical table](#))

- Nominal voltage:** 600 / 1000 V (following DIN VDE 0250)
- Test voltage:** 4 kV (following VDE 0281-2)
- Certifications:**
- cRUus: (E310776: Style 10492 & 21184, 1000 V / 80 °C)
  - GL type approval certificate: No. 61 938-14 HH
- Guidelines:** CE, NFPA (following 79-2012 chapter 12.9), EAC & TR (CTP)





**TPE - e-chain<sup>®</sup> - power cable for maximum load requirements (class 6.6.4): shielded, oil- and biooil-resistant, flame-retardant, hydrolysis- and microbe-resistant as well as UV-resistant.**

## Technical tables:

### Mechanical values:

① Part no.	② Number of cores & nominal cross section [mm <sup>2</sup> ] <sup>***</sup>	External diameter (d) <sup>****</sup> [max. mm]	Copper index [kg / km]	Weight [kg / km]
CF35.UL.05.04	(4G0,5)C	8,0	44	88
CF35.UL.07.04	(4G0,75)C	8,5	58	110
CF35.UL.15.04	(4G1,5)C	10,0	94	158
CF35.UL.25.04	(4G2,5)C	11,5	142	223
CF35.UL.40.04	(4G4,0)C	13,5	223	341
CF35.UL.60.04	(4G6,0)C	16,0	326	482
CF35.UL.100.04	(4G10,0)C	19,5	500	721
CF35.UL.160.04	(4G16,0)C	23,0	798	1083
CF35.UL.160.05	(5G16,0)C	26,5	1019	1398
CF35.UL.250.04	(4G25,0)C	27,5	1273	1636
CF35.UL.350.04	(4G35,0)C	31,5	1315	1803
CF35.UL.60.03.O.PE	(3x6,0)C	14,5	252	394
CF35.UL.100.03.O.PE	(3x10,0)C	17,5	391	606
CF35.UL.160.03.O.PE	(3x16,0)C	21,0	610	848
CF35.UL.250.03.O.PE	(3x25,0)C	25,0	973	1299
CF35.UL.350.03.O.PE	(3x35,0)C	28,5	1318	1797
CF35.UL.500.03.O.PE	(3x50,0)C	33,5	1828	2452

<sup>\*\*\*</sup> G ⇒ Cable contains a greenyellow core.

<sup>\*\*\*\*</sup> External diameters are maximum values and may tend toward lower tolerance limits.

### Electrical values:

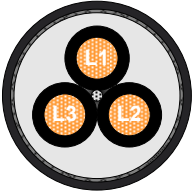
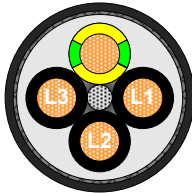
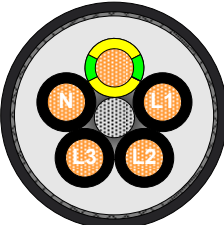
Nominal cross section [mm <sup>2</sup> ] (following)	Conductor resistance [approx. Ω / km] at 20 °C	
	DIN EN 50289-1-2	Max. current rating [A] at 30 °C <sup>*</sup> DIN VDE 0298-4
0,5	39	10
0,75	26	14
1,5	13,3	21
2,5	7,98	30
4,0	4,95	41
6,0	3,3	53
10,0	1,91	74
16,0	1,21	99
25,0	0,78	131
35,0	0,554	162
50,0	0,386	202

<sup>\*</sup> The max. current rating depends on factors such as the individual environmental conditions and the type of installation.



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Construction table:

Part no.	Cable construction	Part no.	Cable construction
No. of cores		No. of cores	
CF35.UL.XX.03.O.PE		CF35.UL.XX.04	
3		4	
CF35.UL.XX.05			
5			



Subject to misprints and errors. Technical modifications are possible at any time. Maybe older batches do not have all or other features. Please refer regarding the availability of the items especially the information in the latest chainflex<sup>®</sup> catalog.

