# TPE Motor cable | CF35-UL

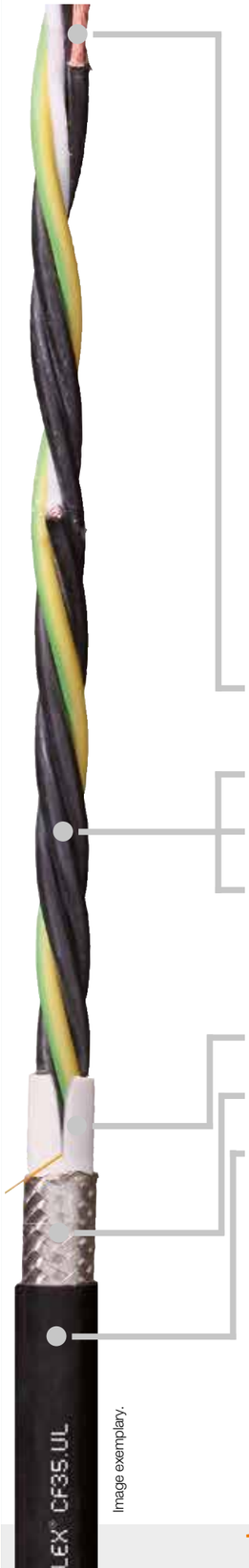


Image exemplary.

- For very high mechanical load requirements
- TPE outer jacket
- Shielded
- Oil-resistant, bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis/microbe-resistant

CFRIP® Strip cables 50 % faster

DESIGN AWARD 2016

## Dynamic Information

| | | |
|---|---|---|
| **Bend radius** | **E-Chain®** | min. 7.5 x d |
| | **flexible** | min. 6 x d |
| | **fixed** | min. 4 x d |
| **Temperature** | **E-Chain®** | -31 °F to +194 °F (-35 °C to +90 °C) |
| | **flexible** | -49 °F to +194 °F (-45 °C to +90 °C) |
| | **fixed** | -58 °F to +194 °F (-50 °C to +90 °C) |
| **v max.** | **unsupported** | 32.81 ft/s (10 m/s) |
| | **gliding** | 19.69 ft/s (6 m/s) |
| **a max.** | | 262.5 ft/s² (80 m/s²) |
| **Travel distance** | | Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6 |

## Cable structure

| | |
|---|---|
| **Conductors** | **20-10 AWG:** Conductor consisting of bare copper wires (according to EN 60228).<br>**8-1 AWG:** Conductor cable consisting of pre-leads (following EN 60228). |
| **Conductor insulation** | Mechanically high-quality, especially low-capacitance TPE mixture. |
| **Core construction** | Conductors cabled with short pitch length around a high-tensile strength core. |
| **Color code** | Black with white numbers, one conductor green-yellow..<br>1. U / L1 / C / L+<br>2. V / L2<br>3. W / L3 / D / L-<br>4. green/yellow |
| **Inner jacket** | TPE mixture adapted to suit the requirements in E-Chains®. |
| **Overall shield** | Extremely bending-resistant tinned copper braid.<br>90 % optical coverage |
| **Outer jacket** | Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Signal black (similar to RAL 9004) |
| **CFRIP®** | Strip cables 50% faster: The tear strip is in the inner jacket<br>Video ▶ www.igus.com/CFRIP |

**Configurators ▶ www.igus.com/CF35**

# Class 6.6.4.1

| | | |
|---|---|---|
| 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° |

## Electrical Information

| | |
|---|---|
| **Nominal voltage** | 1000 V |
| **Test voltage** | 4000 V (following DIN EN 50396) |

## Properties and approvals

| | |
|---|---|
| **UV resistance** | High |
| **Oil resistance** | Oil resistant (following DIN EN 60811-404), bio-oil resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4 |
| **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) |
| **UL/CSA** | Style 10492 and 21184, 1000 V, 80 °C |
| **NFPA 79** | Complies to NFPA 79-2015 chapter 12.9 |
| **DNV-GL** | Certified according to GL type testing – Certificate no.: 61 938-14 HH |
| **EAC** | Certified according to no. TC RU C-DE.ME77.B.01255 |
| **CTP** | Certified according to no. C-DE.PB49.B.00420 |
| **CEI** | Following CEI 20-35 |
| **Lead-free** | Following 2011/65/EC (RoHS-II) |
| **Cleanroom** | According to ISO Class 1. Outer jacket material complies with CF34-UL-25-04-D, tested by IPA according to standard 14644-1 |
| **CE** | Following 2014/35/EC |

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

| Cycles* | | | | | 5 million | 7.5 million | 10 million |
|---|---|---|---|---|---|---|---|
| Temperature, from/to [°F] | v max. [ft/s] unsupported | v max. [ft/s] gliding | a max. [ft/s²] | Travel distance [ft] | *R* min. [factor x d] | *R* min. [factor x d] | *R* min. [factor x d] |
| -31 / -13 | 32.81 | 19.69 | 262.48 | ≤ 1,312 | 10 | 11 | 12 |
| -13 / +176 | | | | | 7.5 | 8.5 | 9.5 |
| +176 / +194 | | | | | 10 | 11 | 12 |

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

## Typical application areas

- For very high mechanical load requirements
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Clean room, semiconductor insertion, Ship to shore, outdoor cranes, low temperature applications

CF35-UL
TPE
7.5 x d

# TPE Motor cable | CF35-UL

## Class 6.6.4.1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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° | | | | |

CF35-UL
TPE
7.5 x d

**Strip cables 50% faster!**


Image exemplary.

| Part No. | AWG | Number of Conductors and rated cross section [mm²] | Outer diameter max. | | Copper index | | Weight | |
|---|---|---|---|---|---|---|---|---|
| | | | in. | mm | lbs/mft | kg/km | lbs/mft | kg/km |
| **CF35-UL-05-04** | 20 | 4 G 0.5 | 0.31 | 8.0 | 29.6 | 44 | 59.1 | 88 |
| **CF35-UL-07-04** | 18 | 4 G 0.75 | 0.33 | 8.5 | 39.0 | 58 | 73.9 | 110 |
| **CF35-UL-15-04** | 16 | 4 G 1.5 | 0.39 | 10.0 | 63.2 | 94 | 106.2 | 158 |
| **CF35-UL-25-04** | 14 | 4 G 2.5 | 0.45 | 11.5 | 95.4 | 142 | 149.8 | 223 |
| **CF35-UL-40-04** | 12 | 4 G 4.0 | 0.53 | 13.5 | 149.8 | 223 | 229.1 | 341 |
| **CF35-UL-60-04** | 10 | 4 G 6.0 | 0.63 | 16.0 | 219.1 | 326 | 323.9 | 482 |
| **CF35-UL-100-04** | 8 | 4 G 10.0 | 0.77 | 19.5 | 336.0 | 500 | 484.5 | 721 |
| **CF35-UL-160-04** | 6 | 4 G 16.0 | 0.91 | 23.0 | 536.2 | 798 | 727.7 | 1083 |
| **CF35-UL-250-04** | 4 | 4 G 25.0 | 1.08 | 27.5 | 855.4 | 1273 | 1099.3 | 1636 |
| | | | | | | | | |
| **CF35-UL-60-03-O-PE** | 10 | 3 x 6.0 | 0.59 | 15.0 | 172.0 | 256 | 260.1 | 387 |
| **CF35-UL-100-03-O-PE** [1)] | 8 | 3 x 10.0 | 0.69 | 17.5 | 262.7 | 391 | 407.2 | 606 |
| **CF35-UL-160-03-O-PE** | 6 | 3 x 16.0 | 0.83 | 21.0 | 409.9 | 610 | 569.8 | 848 |
| **CF35-UL-250-03-O-PE** | 4 | 3 x 25.0 | 0.98 | 25.0 | 653.8 | 973 | 872.9 | 1299 |
| **CF35-UL-350-03-O-PE** | 2 | 3 x 35.0 | 1.12 | 28.5 | 885.7 | 1318 | 1207.5 | 1797 |
| **CF35-UL-500-03-O-PE** | 1 | 3 x 50.0 | 1.32 | 33.5 | 1228.4 | 1828 | 1647.7 | 2452 |

[1)] Delivery time upon request
**Note:** The mentioned outer diameters are maximum values.
**G =** with green-yellow earth core **x =** without earth core

**Order example: CF35-UL-15-04 – In your desired length**
**CF35-UL Chainflex® series -15 Code nominal cross section -04 Number of conductors**

Online order ▶ www.chainflex.com/CF35

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

**Configurators ▶ www.igus.com/CF35**