**ANHUI FEICHUN SPECIAL CABLE CO., LTD.**
安徽飞纯特种电缆有限公司
INDUSTRIAL DRAG CHAIN & SPECIAL CABLE SPECIALIST · WWW.FEICHUNCABLES.COM

**DOCUMENT** FC-PDS-CF300-CF35-2026-001
**REVISION** Rev. A1 | **DATE** 2026-02-11
**CLASS** Product Data Sheet | TPE Drag Chain Motor Cable
**STANDARD** UL/CSA | IEC 60228 | VDE 0295 | UL 758

★ HIGHLIGHTED MODEL
**CF300.UL.700.01.D**
1 × 70 mm² · 1000 V · TPE
Single-core spindle / power cable

★ HIGHLIGHTED MODEL
**CF35.UL.25.04**
4G2.5 mm² · 1000 V · Shielded
4-core shielded motor cable

PRODUCT SPECIFICATION — TPE HIGH-FLEX MOTOR CABLES FOR E-CHAIN® / DRAG CHAIN SYSTEMS, 600/1000 V RATED

# FC-CF300 / FC-CF35

TPE Single-Core Power Cable (1 × 70 mm²) | TPE Shielded Motor Cable (4G2.5 mm²)
600/1000 V Rated | High Dynamic Flex Life | Oil-, UV- & Flame-Resistant TPE Jacket

Contact: Tech@feichuncables.com | +86 138 5512 3218 | www.feichuncables.com

FC 600/1000 V | TPE DRAG CHAIN | HIGH-FLEX | OIL & UV RESISTANT | UL/CSA LISTED

### CROSS-REFERENCE — DIRECT REPLACEMENT FOR IGUS® CHAINFLEX®

These products are **Feichun direct replacements** for the **igus® chainflex® CF300.UL.D** and **CF35.UL** series drag chain cables. Identical conductor construction, voltage rating, dimensional profile, and bending performance. **No design changes required** — drop-in replacement for existing E-Chain® installations.

igus®, chainflex®, and E-Chain® are registered trademarks of igus® GmbH. Feichun is not affiliated with igus® GmbH.

## TECHNICAL DATA — SIDE-BY-SIDE COMPARISON

| PARAMETER | FC-CF300 ≡ CF300.UL.700.01.D | FC-CF35 ≡ CF35.UL.25.04 |
|---|---|---|
| Description | TPE Single-Core Power Cable | TPE Shielded Motor Cable |
| No. cores × cross-sec. | 1 × 70.0 mm² | 4G2.5 mm² |
| AWG equivalent | ≈ 2/0 AWG | 14 AWG |
| Rated voltage (U₀/U) | 600 / 1000 V | 600 / 1000 V |
| Outer-Ø (max.) | 16.5 mm | 11.5 mm |
| Cu-index (incl. shield) | ≈ 672 kg/km | 142 kg/km |
| Cable weight (approx.) | ≈ 757 kg/km | ≈ 223 kg/km |
| Current capacity (ref.) | 240 – 300 A | 21 – 30 A |
| Min. bend radius (chain) | 7.5 × d ≈ 124 mm | 7.5 × d ≈ 87 mm |
| Shielding | Unshielded | Tinned Cu braid (≈ 90%) |
| Outer jacket | TPE (orange) | TPE (orange) |
| Travel distance | Long stroke / hanging | Long stroke / hanging |

Current capacity at 30 °C ambient, single cable in free air. Derate for bundled installation per VDE 0298-4.

## KEY ADVANTAGES

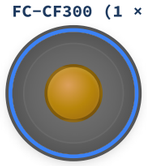
- 600/1000 V UL/CSA
- TPE Oil-Resistant

## FC-CF300 — SINGLE-CORE POWER CABLE DETAIL

**REPLACES: IGUS® CF300.UL.700.01.D**

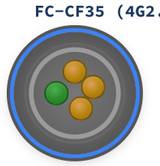
- **Conductor:** Fine-stranded bare copper, Class 5 per VDE 0295 / IEC 60228 — 1 × 70.0 mm² (≈ 2/0 AWG)
- **Core insulation:** TPE compound, continuous colour coding
- **Outer sheath:** TPE compound — orange, oil-resistant, UV-resistant, flame-retardant
- **Shielding:** None (unshielded). For screened variant, use FC-CF310 series
- **Construction:** Single-core, designed for high-current spindle and motor drive applications in E-Chain® systems

FC-CF300 (1 × 70 mm²)



*Single-core Ø 16.5 mm (max.)*
*70 mm² fine-stranded Cu*
*TPE jacket (orange)*

FC-CF35 (4G2.5 mm²)



*4-core shielded Ø 11.5 mm (max.)*
*Tinned Cu braid screen*
*3 × power + 1 × PE (G/Y)*

### FC-CF300 — TYPICAL WIRING

As a single-core cable, **FC-CF300** is typically used in sets of **3 cables (L1, L2, L3)** or **4 cables (L1, L2, L3 + PE)** to form a complete motor power circuit. Each phase is routed as a separate cable within the drag chain.

## FC-CF35 — SHIELDED MOTOR CABLE DETAIL

**REPLACES: IGUS® CF35.UL.25.04**

- **Conductor:** Fine-stranded bare copper, Class 5 per VDE 0295 / IEC 60228 — 4 × 2.5 mm² (14 AWG), including 1 × PE (green/yellow)
- **Core insulation:** TPE compound, colour-coded (3 × power + 1 × G/Y earth)
- **Shield:** High-flex tinned copper braid, optical coverage ≈ 90%, optimized for continuous bending without degradation
- **Outer sheath:** TPE compound — orange, oil-resistant, UV-resistant, flame-retardant
- **Construction:** 4-core (4G), fully shielded, for VFD-to-motor connections with EMC compliance

## TYPICAL APPLICATIONS

- **Drag chain / E-Chain® systems:** Primary application — high-speed, high-cycle cable carriers in CNC machines, gantry systems, and robotic cells
- **Servo & spindle drives:** FC-CF300 for high-power spindle motors; FC-CF35 for standard servo motor connections
- **Automated production lines:** Pick-and-place, welding robots, and material handling with continuous cable motion
- **Machine tools & CNC centres:** Oil-rich environments requiring TPE jacket resistance
- **Outdoor & semi-exposed:** UV-resistant sheath suitable for gantry cranes, port equipment, and outdoor conveyors

### ✓ DRAG CHAIN PERFORMANCE

Both cables are designed for **7.5 × d minimum bend radius** in E-Chain® drag chain applications, supporting **millions of bending cycles** at travel speeds up to 5 m/s and accelerations up to 50 m/s². Suitable for long travel distances and hanging / gliding installations.

## BENDING & MECHANICAL DATA

FC-CF300 — MIN. BEND
**7.5 × d**
≈ 124 mm (in chain)

FC-CF35 — MIN. BEND
**7.5 × d**
≈ 87 mm (in chain)

### ⚠ INSTALLATION NOTES — DRAG CHAIN

Ensure adequate clearance at bend points to prevent excessive tension on conductors ("corkscrew effect"). Use igus®-recommended fill ratios and separators. For multi-cable drag chain trays, apply de-rating factors per VDE 0298-4 for current capacity calculations.

## APPLICABLE STANDARDS & APPROVALS

- UL 758 — Appliance Wiring Material (UL/CSA listed, 1000 V)
- VDE 0295 / IEC 60228 — Conductor Class 5 (flexible)
- IEC 60332-1-2 — Flame retardance (single cable)
- UL 1581 — Reference standard for wiring / cables
- RoHS / REACH — EU compliant, halogen-free available on request

UV & Weather Resistant | Flame Retardant

igus® Drop-In Replacement | High-Flex Drag Chain

RoHS Compliant | Millions of Cycles

**✓ EMC SHIELDING PERFORMANCE**

The tinned copper braid shield maintains ≈ **90% optical coverage** even after millions of bending cycles. This ensures reliable EMI suppression for servo and VFD motor connections throughout the operational life of the drag chain installation.

## TEMPERATURE RANGE (BOTH MODELS)

| MOVING (DRAG CHAIN) | FIXED INSTALLATION | SHORT-TERM PEAK |
|---|---|---|
| **−35 / +80 °C** | **−40 / +80 °C** | **+125 °C** |
| Dynamic flex use | Stationary routing | Limited duration |

−40 °C ——— +125 °C

▸ Voltage: `600/1000 V` | Temp: `−40 °C to +80 °C` (fixed)

UL/CSA | 600/1000 V | TPE / TPE | RoHS

## PART NUMBER DECODE

| | |
|---|---|
| `CF300.UL` | **Series:** TPE single-core power cable, UL-listed |
| `700` | Cross-section: **70.0 mm²** |
| `01` | Number of cores: **1** |
| `.D` | Suffix: **D = UL detailed specification** |
| `CF35.UL` | **Series:** TPE shielded motor cable, UL-listed |
| `25` | Cross-section: **2.5 mm²** |
| `04` | Number of cores: **4** (including PE) |

**ORDER REFERENCE & CONTACT**

For inquiries and orders, please reference:

**FC-CF300 (1 × 70 mm²)** = igus® CF300.UL.700.01.D

**FC-CF35 (4G2.5 mm²)** = igus® CF35.UL.25.04

Contact: **Tech@feichuncables.com** | **+86 138 5512 3218**

*Full range of drag chain cables available · Custom lengths · MOQ on request.*



All data are nominal and subject to normal manufacturing tolerances.
The company reserves the right to modify specifications without prior notice.
FC-CF300 / FC-CF35 | igus® chainflex® equivalent | 600/1000 V rated.