CATALOGUE · DRAG-CHAIN CONTROL CABLES | 300/500 V · 600 V | 705 variants · 27 series | igus chainflex® equivalents

FC-ECH
Drag-Chain Control Cables — Product Catalogue

Highly flexible control cables for cable carriers (e-chains) — PVC, PUR and TPE jackets, unshielded and shielded, 0.14 to 16 mm² — designed as drop-in equivalents of the igus chainflex® control cable range.

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01 Programme Overview

FeiChun FC-ECH control cables are designed for continuous movement in cable carriers (e-chains). Each series is a functional equivalent of an igus chainflex® control cable, with matching outer diameters and bending performance, so it can replace the original cable in existing e-chains without redesign.

Extra-fine-wire class 6 conductors, low-capacitance core insulation and a short-pitch, tension-proof lay-up keep the cables stable over millions of bending cycles; pressure-extruded jackets fill the gussets and prevent corkscrewing. The range covers PVC, PUR and TPE jackets, unshielded and shielded designs, oil-resistant, halogen-free, UL-style and torsion-resistant robot versions.

Typical applications

- Machine tools and machining centres
- Handling, robotics and pick-and-place systems
- Packaging, printing and woodworking machinery
- Storage and retrieval systems, cranes and long-travel gantries
- Indoor, outdoor, oil-exposed and cleanroom applications

705
variants in 27 cable series

PVC · PUR · TPE
Outer jacket materials

0.14 – 16 mm²
Conductor cross-sections

Class 6
Extra-fine-wire copper conductors

Product range at a glance

FeiChun type	igus reference	Outer jacket	Shield	Nominal voltage	Cross-sections mm²	Variants	Bending radius, e-chain	Section
FC-ECH2	CF2	PUR	Shielded	300/500 V	0.14 – 0.25	10	5 × d	§03
FC-ECH5	CF5	PVC	Unshielded	300/500 V	0.25 – 2.5	43	6.8 × d	§04
FC-ECH6	CF6	PVC	Shielded	300/500 V	0.25 – 2.5	33	6.8 × d	§05
FC-ECH98	CF98	TPE	Unshielded	300/300 V	0.14 – 0.5	11	4 × d	§06
FC-ECH98.PLUS	CF98.PLUS	TPE	Unshielded	300/500 V	0.14 – 0.5	9	3 × d	§07
FC-ECH99	CF99	TPE	Shielded	300/300 V	0.14 – 0.34	6	4 × d	§08
FC-ECH99.PLUS	CF99.PLUS	TPE	Shielded	300/500 V	0.14 – 0.34	6	3 × d	§09
FC-ECH130.UL	CF130.UL	PVC	Unshielded	300/500 V	0.25 – 6	55	7.5 × d	§10
FC-ECH140.UL	CF140.UL	PVC	Shielded	300/500 V	0.25 – 2.5	32	7.5 × d	§11
FC-ECH150.UL	CF150.UL	PVC	Unshielded	300/500 V	1 – 2.5	19	7.5 × d	§12
FC-ECH160.UL	CF160.UL	PVC	Shielded	300/500 V	1 – 2.5	18	7.5 × d	§13
FC-ECH880	CF880	PVC	Unshielded	300/500 V	0.5 – 2.5	37	12.5 × d	§14
FC-ECH881	CF881	PVC	Shielded	300/500 V	0.5 – 2.5	35	12.5 × d	§15
FC-ECH890	CF890	iguPUR	Unshielded	300/500 V	0.5 – 2.5	38	12.5 × d	§16
FC-ECH891	CF891	iguPUR	Shielded	300/500 V	0.5 – 2.5	32	12.5 × d	§17
FC-ECH-ROBOT2	CFROBOT2	PUR	Shielded	300/500 V	0.75	5	10 × d	§18
FC-ECH-ROBOT9	CFROBOT9	PUR	Shielded	300/500 V	0.25	2	10 × d	§19
FC-ECH-SOFT1	CFSOFT1	PVC	Unshielded	300/500 V	0.25 – 0.5	4	—	§20
FC-ECH-SOFT2	CFSOFT2	PVC	Shielded	300/500 V	0.25 – 0.5	4	—	§21
FC-ECH9	CF9	TPE	Unshielded	300/500 V	0.25 – 16	55	—	§22
FC-ECH9.UL	CF9.UL	TPE	Unshielded	300/500 V	0.25 – 4	39	—	§23
FC-ECH10	CF10	TPE	Shielded	300/500 V	0.14 – 4	37	—	§24
FC-ECH10.UL	CF10.UL	TPE	Shielded	300/500 V	0.25 – 4	26	—	§25

FeiChun type	igus reference	Outer jacket	Shield	Nominal voltage	Cross-sections mm²	Variants	Bending radius, e-chain	Section
FC-ECH77.UL.D	CF77.UL.D	PUR	Unshielded	300/500 V	0.25 – 6	52	6.8 × d	§26
FC-ECH78.UL	CF78.UL	PUR	Shielded	300/500 V	0.5 – 4	36	6.8 × d	§27
FC-ECH130US	CF130US	PVC	Unshielded	600 V	0.5 – 6	31	8 × d	§28
FC-ECH140US	CF140US	PVC	Shielded	600 V	0.5 – 6	30	10 × d	§29

02 Selection Guide

PVC JACKET

FC-ECH5 · 6 · 130.UL · 140.UL · 150.UL · 160.UL · 880 · 881 · SOFT

Cost-effective series for indoor e-chain applications with short to medium travel and moderate loads.

- Dry and damp indoor environments
- Oil-resistant versions (150.UL / 160.UL, 880 / 881)
- UL-style approvals on .UL and US series
- Unshielded and shielded designs

PUR / IGUPUR JACKET

FC-ECH2 · 77.UL.D · 78.UL · 890 · 891 · ROBOT2 · ROBOT9

Tough, notch-resistant and halogen-free jackets for heavy-duty, outdoor and oil-exposed applications.

- Indoor and outdoor, UV-resistant
- Coolant- and oil-resistant
- Long travel and gliding applications
- Torsion-resistant robot versions (ROBOT2 / ROBOT9)

TPE JACKET

FC-ECH9 · 9.UL · 10 · 10.UL · 98 · 99

High-end series for the highest speeds, accelerations and cycle counts, long gliding travel and cleanroom use.

- Very small bending radii
- Gliding travel up to 100 m and more
- Halogen-free / PVC-free
- Low temperatures and cleanroom applications

Shielded or unshielded?

Use shielded series (designation with C) for signal, encoder and frequency-converter control circuits or wherever EMC interference must be avoided; terminate the shield 360° at both ends. Unshielded series are sufficient for standard control, sensor and actuator circuits.

Selection by application: choose the jacket for the environment, then check the minimum bending radius, travel distance and speed in the technical data of each series. FeiChun engineering will recommend the best-matching series on request.

03 FC-ECH2 PUR · C

chainflex CF2 Equivalent

10 variants

Shielded control cable, PUR outer jacket, for extremely heavy-duty drag-chain applications (phase-out model)

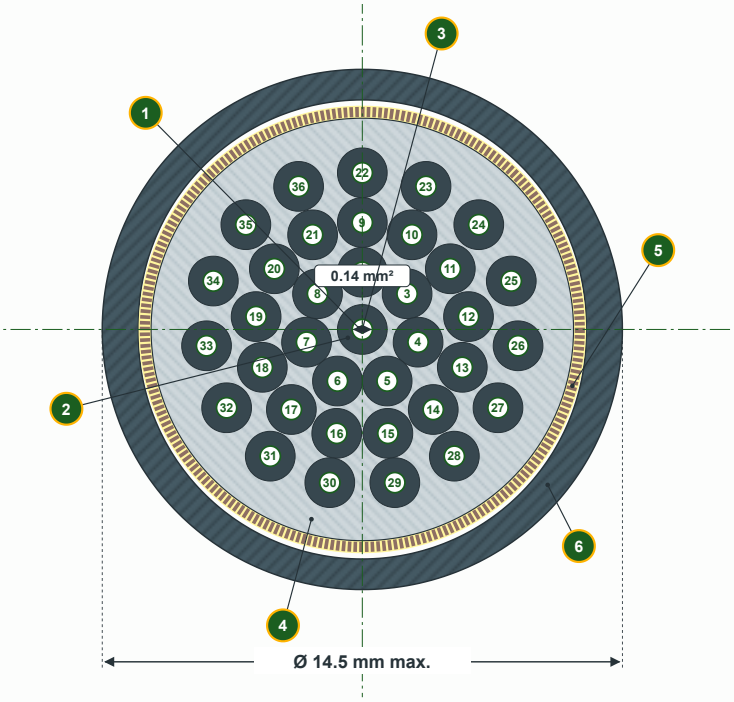
Extremely heavy-duty drag-chain use, indoor and outdoor: storage and retrieval units, high-bay warehouses, machining units and packaging machines, quick handling, indoor cranes and refrigeration areas; fine-conductor signal and measuring circuits. Unsupported travel and gliding applications up to 100 m. Almost unlimited oil resistance; no torsion. All variants are listed by igus as phase-out models.

10 variants
Conductor range 0.14 – 0.25 mm²

300/500 V
Nominal voltage, test 2000 V

5 × d
Min. bending radius in the e-chain

PUR
Outer jacket, shielded



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically robust TPE compound
3	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
4	Inner jacket	Pressure-extruded, gusset-filling PVC compound adapted for e-chains
5	Overall shield	Extremely bend-resistant braid of tinned copper wires, approx. 70 % linear / 90 % optical coverage
6	Outer jacket	PUR, anthracite grey (similar to RAL 7016), white printing

Construction details

Element	Description
Conductor	Bare copper wires in an especially bend-resistant stranding (DIN EN 60228)
Core insulation	Mechanically robust TPE compound
Core structure	Below 12 cores: cores laid in one layer with short pitch; 12 cores and above: cores bundled and wound around a high-tensile centre element with short, low-torsion pitches; 24-core version built from 4-core (star-quad) bundles
Inner jacket	Pressure-extruded, gusset-filling PVC compound adapted for e-chains
Overall shield	Extremely bend-resistant braid of tinned copper wires, approx. 70 % linear / 90 % optical coverage
Outer jacket	Low-adhesion, highly abrasion-resistant, halogen-free PUR compound, anthracite grey (similar to RAL 7016)

Key technical data

Parameter	Value
Current rating at 30 °C	0.14 mm^2: 2.5 A; 0.25 mm^2: 4 A
Bending radius, e-chain linear	min. 5 × d
Bending radius, flexible	min. 4 × d
Bending radius, fixed	min. 3 × d
Temperature, e-chain linear	−20 °C to +80 °C
Temperature, flexible	−40 °C to +80 °C (DIN EN 60811-504)
Temperature, fixed	−50 °C to +80 °C (DIN EN 50305)
v max, unsupported	10 m/s
v max, gliding	5 m/s
a max	80 m/s^2
Travel distance	Unsupported travel and gliding up to 100 m (class 5)
Torsion	Not designed for torsion (class 1)

Parameter	Value
Max. conductor resistance at 20 °C	0.14 mm^2: 138 Ω/km; 0.25 mm^2: 79 Ω/km
Oil resistance	DIN EN 50363-10-2, almost unlimited (class 3)
Offshore	MUD-resistant to NEK 606 (2016)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2, horizontal flame test
UV resistance	High
Halogen-free	Outer jacket halogen-free
Silicone-free / PTFE-free	Yes / yes
Cleanroom	ISO Class 1 (IPA test to DIN EN ISO 14644-1)
Lead-free	RoHS II / RoHS III
UL/CSA	AWM Style 20317, 80 °C, 300 V (E310776); UL-verified (certificate V293650)
NFPA	NFPA 79-2018, section 12.9
CE / REACH	2014/35/EU; EC 1907/2006

Parameter	Value
Service life (R min, 5 / 7.5 / 10 million double strokes)	−20/−10 °C: 6.8 / 7.5 / 8.5 × d; −10/+70 °C: 5 / 6.8 / 7.5 × d; +70/+80 °C: 6.8 / 7.5 / 8.5 × d

Dimensions, Weights & Ratings — FC-ECH2 PUR · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.14 mm²				
(4×0.14)C	FC-ECH2-001	6.5	18	49
(8×0.14)C	FC-ECH2-002	7.5	31	66
(12×0.14)C	FC-ECH2-003	9.5	51	102
(18×0.14)C	FC-ECH2-004	10.5	56	135
(24×0.14)C	FC-ECH2-005	11.5	68	162
(36×0.14)C	FC-ECH2-006	14.5	92	240
0.25 mm²				
(4×0.25)C	FC-ECH2-007	7.0	25	59
(8×0.25)C	FC-ECH2-008	8.0	43	84
(18×0.25)C	FC-ECH2-009	12.0	100	173
(48×0.25)C	FC-ECH2-010	17.5	191	387

04 FC-ECH5 PVC

chainflex CF5 Equivalent

43 variants

Control cable, PVC outer jacket, oil-resistant and flame-retardant, for heavy-duty drag-chain applications

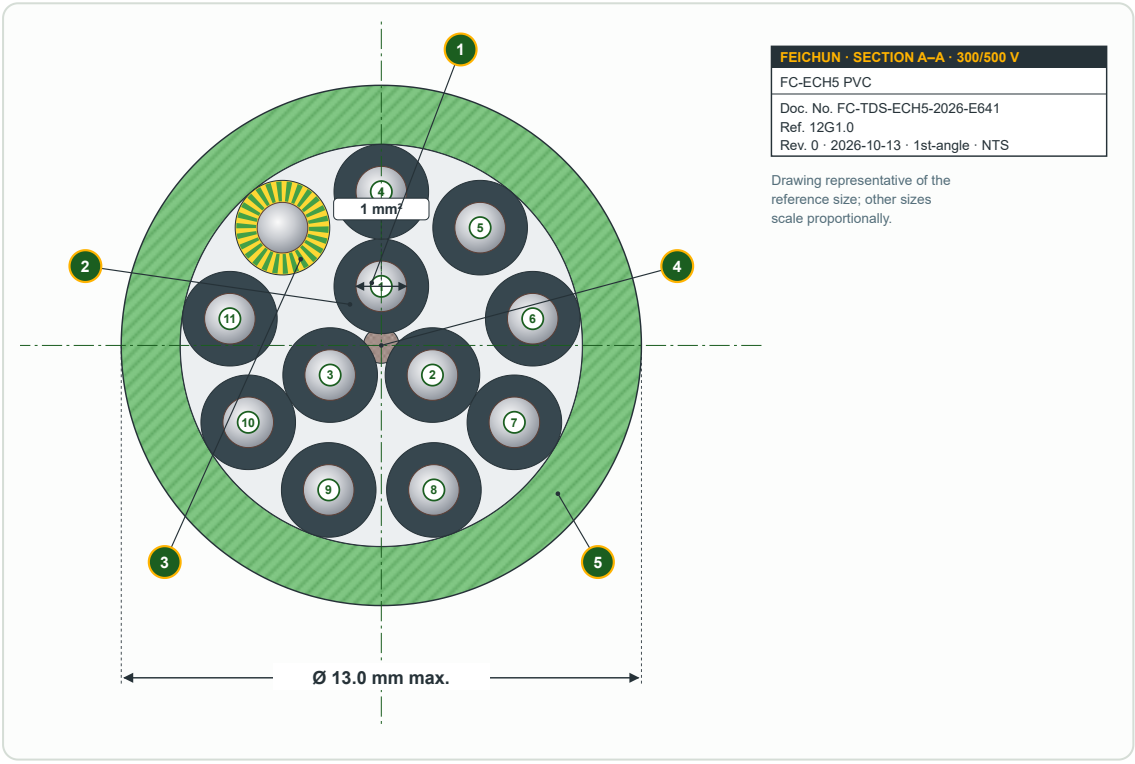
Heavy-duty drag-chain use in storage and retrieval units, machining units and packaging machines, quick handling and indoor cranes. Unsupported travel and gliding up to 100 m. Light oil influence. Preferably indoors; outdoors only at temperatures above +5 °C.

43 variants
Conductor range 0.25 – 2.5 mm²

300/500 V
Nominal voltage, test 2000 V

6.8 × d
Min. bending radius in the e-chain

PVC
Outer jacket



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	TPE compound for cores ≤ 0.5 mm²; PVC compound for cores ≥ 0.75 mm²
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Outer jacket	PVC, moss green (similar to RAL 6005), white printing

Construction details

Element	Description
Conductor	Fine-wire stranded bare copper conductor (DIN EN 60228)
Core insulation	TPE compound for cores ≤ 0.5 mm^2; PVC compound for cores ≥ 0.75 mm^2
Core structure	Below 12 cores: cores laid in one layer with short pitch; 12 cores and above: cores laid in bundles around a high-tensile centre element, short pitch, low torsion
Outer jacket	Pressure-extruded, gusset-filling, low-adhesion, oil-resistant PVC compound (DIN EN 50363-4-1), moss green (similar to RAL 6005), with CFRIP tear strip for fast stripping

Key technical data

Parameter	Value
Max. conductor resistance / current rating	e.g. 0.25 mm^2: 79 Ω/km, 4 A; 2.5 mm^2: 8 Ω/km, 26 A (at 20 °C / 30 °C)
Bending radius, e-chain linear	min. 6.8 × d
Bending radius, flexible	min. 5 × d
Bending radius, fixed	min. 4 × d
Temperature, e-chain linear	+5 °C to +70 °C
Temperature, flexible	−5 °C to +70 °C (DIN EN 60811-504)
Temperature, fixed	−15 °C to +70 °C (DIN EN 50305)
v max, unsupported	10 m/s
v max, gliding	5 m/s
a max	80 m/s^2
Travel distance	Unsupported travel and gliding up to 100 m (class 5)
Torsion	±90° over 1 m cable length (class 2) as stated in data sheet

Parameter	Value
Service life	Guaranteed for 5 / 7.5 / 10 million double strokes; R min depends on temperature range and travel length (see igus service-life table)
Oil resistance	Oil-resistant to DIN EN 50363-4-1 (class 2)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2
UV resistance	Medium
Halogen-free	No (PVC)
Silicone-free / PTFE-free	Yes / yes
Cleanroom	ISO Class 2 (IPA test to DIN EN ISO 14644-1)
Lead-free	RoHS II
UL/CSA	AWM Style 2570, 80 °C, 600 V; UL-verified (certificate V293650)
NFPA	NFPA 79-2018, chapter 12.9
CE / REACH	2014/35/EU; EC 1907/2006

Dimensions, Weights & Ratings — FC-ECH5 PVC

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.25 mm²				
36×0.25	FC-ECH5-001	15.0	99	209
0.34 mm²				
15×0.34	FC-ECH5-002	11.0	55	113
18×0.34	FC-ECH5-003	12.0	67	143
25×0.34	FC-ECH5-004	14.0	92	194
0.5 mm²				
2×0.5	FC-ECH5-005	6.0	11	38
3G0.5	FC-ECH5-006	6.0	16	41
4G0.5	FC-ECH5-007	6.5	21	47
5G0.5	FC-ECH5-008	7.0	25	59
7G0.5	FC-ECH5-009	8.0	36	78
12G0.5	FC-ECH5-010	11.0	61	131
18G0.5	FC-ECH5-011	13.0	91	190
25G0.5	FC-ECH5-012	16.0	124	281
30G0.5	FC-ECH5-013	18.0	149	325
0.75 mm²				
3G0.75	FC-ECH5-014	6.5	23	54
4G0.75	FC-ECH5-015	7.0	32	67
5G0.75	FC-ECH5-016	7.5	39	82
7G0.75	FC-ECH5-017	9.0	56	115
12G0.75	FC-ECH5-018	12.5	91	189
18G0.75	FC-ECH5-019	15.0	134	269
25G0.75	FC-ECH5-020	17.5	190	384
36G0.75	FC-ECH5-021	22.0	267	587
42G0.75	FC-ECH5-022	23.5	313	745
1.0 mm²				
3G1.0	FC-ECH5-023	6.5	31	56
4G1.0	FC-ECH5-024	7.0	41	78
5G1.0	FC-ECH5-025	8.0	50	94
7G1.0	FC-ECH5-026	9.5	74	130
12G1.0	FC-ECH5-027	13.0	119	227
18G1.0	FC-ECH5-028	16.5	179	306
25G1.0	FC-ECH5-029	19.5	248	487
1.5 mm²				
3G1.5	FC-ECH5-030	7.5	46	74
4G1.5	FC-ECH5-031	8.0	61	105
5G1.5	FC-ECH5-032	9.0	75	127
7G1.5	FC-ECH5-033	10.5	105	180

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
12G1.5	FC-ECH5-034	15.0	179	264
18G1.5	FC-ECH5-035	19.5	267	478
25G1.5	FC-ECH5-036	21.5	371	645
36G1.5	FC-ECH5-037	26.5	529	960
2.5 mm²				
4G2.5	FC-ECH5-038	10.0	96	170
5G2.5	FC-ECH5-039	11.0	120	200
7G2.5	FC-ECH5-040	13.0	169	279
12G2.5	FC-ECH5-041	18.5	284	480
18G2.5	FC-ECH5-042	23.5	427	765
25G2.5	FC-ECH5-043	27.5	591	1,054

FEICHUN CABLE

05 FC-ECH6 PVC · C

chainflex CF6 Equivalent

33 variants

Shielded control cable, PVC outer jacket, oil-resistant and flame-retardant, for heavy-duty drag-chain applications

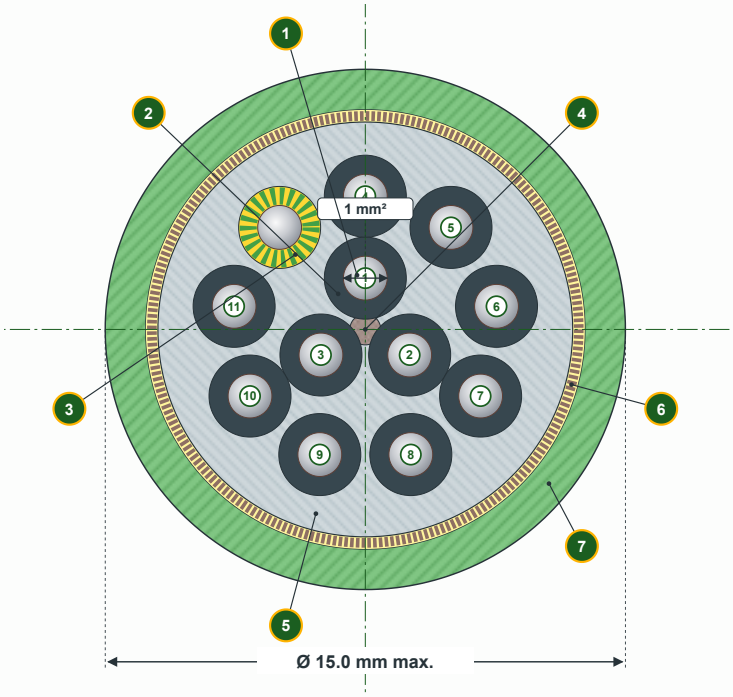
Heavy-duty drag-chain use where an overall shield is required: storage and retrieval units, machining units and packaging machines, quick handling and indoor cranes. Unsupported travel and gliding up to 100 m. Light oil influence; no torsion. Preferably indoors; outdoors only at temperatures above +5 °C.

33 variants
Conductor range 0.25 – 2.5 mm²

300/500 V
Nominal voltage, test 2000 V

6.8 × d
Min. bending radius in the e-chain

PVC
Outer jacket, shielded



FEICHUN · SECTION A–A · 300/500 V
FC-ECH6 PVC · C
Doc. No. FC-TDS-ECH6-2026-994B
Ref. (12G1.0)C
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	TPE compound for cores ≤ 0.5 mm²; PVC compound for cores ≥ 0.75 mm²
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Inner jacket	PVC compound adapted for e-chains, with moulded CFRIP tear strip
6	Overall shield	Extremely bend-resistant braid of tinned copper wires, approx. 70 % linear / 90 % optical coverage
7	Outer jacket	PVC, moss green (similar to RAL 6005), white printing

Construction details

Element	Description
Conductor	Fine-wire stranded bare copper conductor (DIN EN 60228)
Core insulation	TPE compound for cores ≤ 0.5 mm²; PVC compound for cores ≥ 0.75 mm²
Core structure	Below 12 cores: cores laid in one layer with short pitch; 12 cores and above: cores laid in bundles around a high-tensile centre element, short pitches with alternating lay direction for low torsion
Inner jacket	PVC compound adapted for e-chains, with moulded CFRIP tear strip
Overall shield	Extremely bend-resistant braid of tinned copper wires, approx. 70 % linear / 90 % optical coverage
Outer jacket	Low-adhesion, oil-resistant PVC compound (DIN EN 50363-4-1), moss green (similar to RAL 6005)

Key technical data

Parameter	Value
Current rating at 30 °C	0.25: 4; 0.34: 5; 0.5: 8; 0.75: 12; 1.0: 15; 1.5: 18; 2.5: 26 A
Bending radius, e-chain linear	min. 6.8 × d
Bending radius, flexible	min. 5 × d
Bending radius, fixed	min. 4 × d
Temperature, e-chain linear	+5 °C to +70 °C
Temperature, flexible	−5 °C to +70 °C (DIN EN 60811-504)
Temperature, fixed	−15 °C to +70 °C (DIN EN 50305)
v max, unsupported	10 m/s
v max, gliding	5 m/s
a max	80 m/s²
Travel distance	Unsupported travel and gliding up to 100 m (class 5)
Torsion	Not designed for torsion (class 1)

Parameter	Value
Service life (R min, 5 / 7.5 / 10 million double strokes; travel < 10 m / ≥ 10 m)	+5/+15 °C: 7.5/10, 8.5/11, 9.5/12 × d; +15/+60 °C: 6.8/7.5, 7.8/8.5, 8.8/9.5 × d; +60/+70 °C: 7.5/10, 8.5/11, 9.5/12 × d
Max. conductor resistance at 20 °C	0.25: 79; 0.34: 57; 0.5: 39; 0.75: 26; 1.0: 19.5; 1.5: 13.3; 2.5: 8 Ω/km
Oil resistance	Oil-resistant to DIN EN 50363-4-1 (class 2)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2, horizontal flame test
UV resistance	Medium
Halogen-free	No (PVC)
Silicone-free / PTFE-free	Yes / yes
Cleanroom	ISO Class 2 (IPA test to DIN EN ISO 14644-1)
Lead-free	RoHS II / RoHS III
UL/CSA	AWM Style 2570 (outer jacket), core styles 10492 (≤ 0.5 mm²) / 11113 (≥ 0.75 mm²), 80 °C, 600 V; UL-verified (certificate V293650)

Parameter	Value
NFPA	NFPA 79-2018, chapter 12.9
CE / REACH	2014/35/EU; EC 1907/2006

Dimensions, Weights & Ratings — FC-ECH6 PVC · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.25 mm²				
(4×0.25)C	FC-ECH6-001	7.0	29	61
(25×0.25)C	FC-ECH6-002	14.5	111	260
0.34 mm²				
(5×0.34)C	FC-ECH6-003	7.5	37	90
0.5 mm²				
(2×0.5)C	FC-ECH6-004	7.0	30	77
(5G0.5)C	FC-ECH6-005	8.5	49	106
(7G0.5)C	FC-ECH6-006	10.0	64	127
(9G0.5)C	FC-ECH6-007	12.0	80	154
(12G0.5)C	FC-ECH6-008	13.0	98	232
(18G0.5)C	FC-ECH6-009	15.0	145	286
(25G0.5)C	FC-ECH6-010	17.5	192	399
0.75 mm²				
(3G0.75)C	FC-ECH6-011	8.0	46	98
(4G0.75)C	FC-ECH6-012	8.5	56	113
(5G0.75)C	FC-ECH6-013	9.0	67	128
(7G0.75)C	FC-ECH6-014	10.5	87	152
(12G0.75)C	FC-ECH6-015	14.0	128	266
(18G0.75)C	FC-ECH6-016	17.5	196	400
(25G0.75)C	FC-ECH6-017	19.5	265	536
1.0 mm²				
(3G1.0)C	FC-ECH6-018	8.0	54	107
(4G1.0)C	FC-ECH6-019	9.0	65	116
(5G1.0)C	FC-ECH6-020	9.5	77	136
(7G1.0)C	FC-ECH6-021	12.0	103	205
(12G1.0)C	FC-ECH6-022	15.0	161	319
(18G1.0)C	FC-ECH6-023	19.0	245	482
(25G1.0)C	FC-ECH6-024	21.0	322	595
1.5 mm²				
(3G1.5)C	FC-ECH6-025	9.0	72	122
(4G1.5)C	FC-ECH6-026	9.5	88	155
(5G1.5)C	FC-ECH6-027	10.5	105	177

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
(7G1.5)C	FC-ECH6-028	12.5	146	258
(12G1.5)C	FC-ECH6-029	17.0	225	375
(18G1.5)C	FC-ECH6-030	21.0	345	581
(25G1.5)C	FC-ECH6-031	24.0	462	865
2.5 mm²				
(3G2.5)C	FC-ECH6-032	10.5	107	180
(4G2.5)C	FC-ECH6-033	11.5	131	222

FEICHUN CABLE

06 FC-ECH98 TPE

chainflex CF98 Equivalent

11 variants

Unshielded miniature control cable, TPE outer jacket, for heaviest-duty drag-chain applications with very small radii

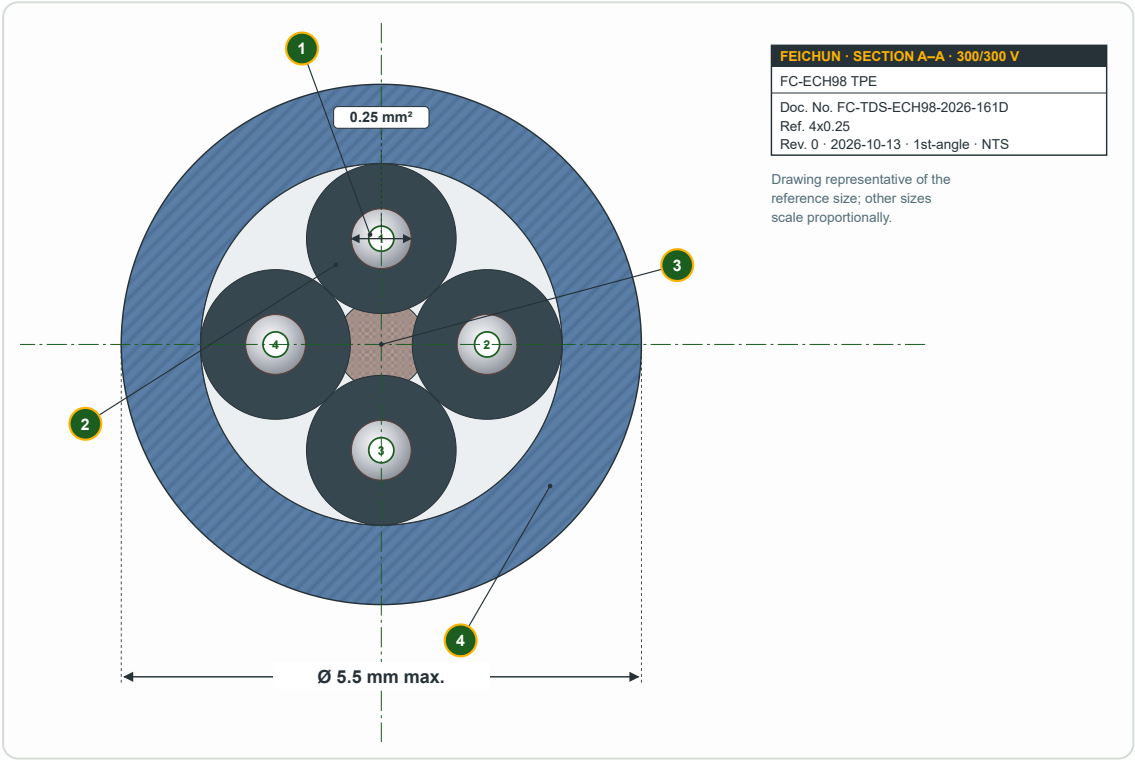
Heaviest-duty drag-chain use with very small bending radii; very short, very fast travel in restricted installation space; pick-and-place machines, automatic doors, cleanroom equipment and very quick handling. Indoor and outdoor use (UV-resistant); almost unlimited resistance to oils and bio-oils; low-temperature flexible, hydrolysis- and microbe-resistant. Torsion ±90° over 1 m cable length.

11 variants
Conductor range 0.14 – 0.5 mm²

300/300 V
Nominal voltage, test 1500 V

4 × d
Min. bending radius in the e-chain

TPE
Outer jacket



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE compound
3	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
4	Outer jacket	TPE, steel blue (similar to RAL 5011)

Construction details

Element	Description
Conductor	Highly flexible special alloy conductor

Element	Description
Core insulation	Mechanically high-quality TPE compound
Core structure	Cores wound in one layer with short pitch length
Outer jacket	Low-adhesion, highly abrasion-resistant, highly flexible TPE compound adapted for e-chains, steel blue (similar to RAL 5011)

Key technical data

Parameter	Value
Bending radius, e-chain linear	min. 4 × d
Bending radius, flexible	min. 4 × d
Bending radius, fixed	min. 3 × d
Temperature, e-chain linear	−35 °C to +90 °C
Temperature, flexible	−50 °C to +90 °C (DIN EN 60811-504)
Temperature, fixed	−55 °C to +90 °C (DIN EN 50305)
v max, unsupported	10 m/s
v max, gliding	6 m/s
a max	100 m/s²

Parameter	Value
Travel distance	Unsupported travel; gliding up to approx. 400 m
Torsion	±90° over 1 m cable length (class 2)
Oil resistance	DIN EN 60811-404; bio-oil-resistant to VDMA 24568 (Plantocut 8 S-MB, tested by DEA), class 4
UV resistance	High
Halogen-free	Yes (DIN EN 60754), PVC-free
Silicone-free	Yes (PV 3.10.7)
Cleanroom	ISO Class 1 (outer jacket per CF9.15.07, IPA test to ISO 14644-1)
Lead-free	2011/65/EU (RoHS II)
Approvals	EAC; CE (2014/35/EU)

Dimensions, Weights & Ratings — FC-ECH98 TPE

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.14 mm²				
2×0.14	FC-ECH98-001	4.0	4	11
3×0.14	FC-ECH98-002	4.5	6	14
4×0.14	FC-ECH98-003	5.0	9	16
8×0.14	FC-ECH98-004	6.5	16	24
0.25 mm²				
3×0.25	FC-ECH98-005	5.0	12	25
4×0.25	FC-ECH98-006	5.5	16	30
7×0.25	FC-ECH98-007	6.5	26	53
8×0.25	FC-ECH98-008	7.0	30	60
0.34 mm²				

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
4×0.34	FC-ECH98-009	5.5	19	35
7×0.34	FC-ECH98-010	7.0	32	55
0.5 mm²				
4×0.5	FC-ECH98-011	6.0	31	40

FEICHUN CABLE

07 FC-ECH98.PLUS TPE

chainflex CF98.PLUS Equivalent

9 variants

Unshielded miniature control cable, TPE outer jacket, for heaviest-duty drag-chain applications down to 3 × d, 100 million double strokes guaranteed

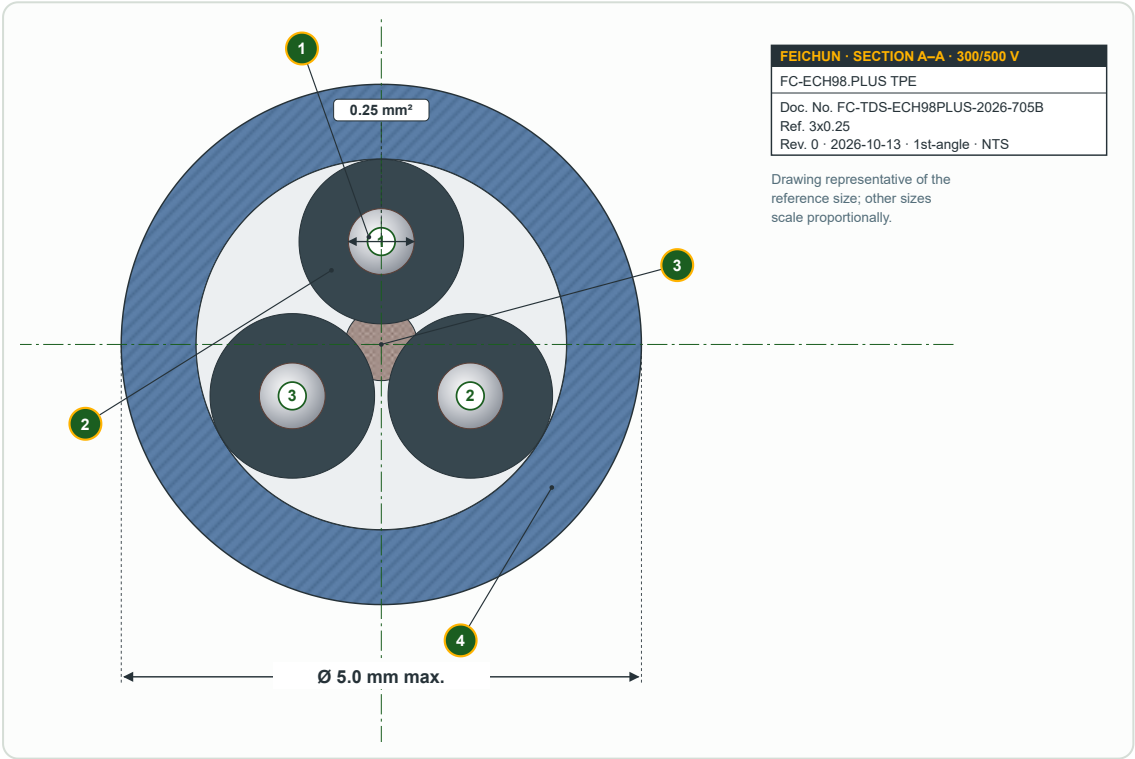
Heaviest-duty drag-chain use with very small bending radii; very short, very fast travel in restricted installation space; pick-and-place machines, automatic doors, cleanroom equipment and very quick handling. Indoor and outdoor use (UV-resistant); almost unlimited resistance to oils and bio-oils; low-temperature flexible, hydrolysis- and microbe-resistant. Successor generation to CF98; torsion ±90° over 1 m cable length.

9 variants
Conductor range 0.14 – 0.5 mm²

300/500 V
Nominal voltage, test 2000 V

3 × d
Min. bending radius in the e-chain

TPE
Outer jacket



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE compound
3	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
4	Outer jacket	TPE, steel blue (similar to RAL 5011)

Construction details

Element	Description
Conductor	Highly flexible special alloy conductor

Element	Description
Core insulation	Mechanically high-quality TPE compound
Core structure	Cores wound in one layer with very short pitch length
Outer jacket	Low-adhesion, highly abrasion-resistant, highly flexible TPE compound adapted for e-chains, steel blue (similar to RAL 5011)

Key technical data

Parameter	Value
Bending radius, e-chain linear	min. 3 × d
Bending radius, flexible	min. 3 × d
Bending radius, fixed	min. 3 × d
Temperature, e-chain linear	−35 °C to +90 °C
Temperature, flexible	−50 °C to +90 °C (DIN EN 60811-504)
Temperature, fixed	−55 °C to +90 °C (DIN EN 50305)
v max, unsupported	10 m/s
v max, gliding	6 m/s
a max	100 m/s²
Travel distance	Class 5 (unsupported and gliding)

Parameter	Value
Torsion	±90° over 1 m cable length (class 2)
Service life (R min, 5 / 40 / 100 million double strokes)	−35/−25 °C: 4 / 6 / 7 × d; −25/+80 °C: 3 / 5 / 6 × d; +80/+90 °C: 4 / 6 / 7 × d
Oil resistance	DIN EN 60811-404; bio-oil-resistant to VDMA 24568 (Plantocut 8 S-MB), class 4
UV resistance	High
Halogen-free	Yes (DIN EN 60754)
PFAS-free / silicone-free	Yes / yes (PV 3.10.7)
Cleanroom	ISO Class 1 (outer jacket per CF9.15.07, IPA test to DIN EN ISO 14644-1)
Lead-free	RoHS II / III
UL	UL-verified (certificate V293650)
CE / REACH	2014/35/EU; EC 1907/2006

Dimensions, Weights & Ratings — FC-ECH98.PLUS TPE

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.14 mm²				
2×0.14	FC-ECH98PLUS-001	4.5	4	18
3×0.14	FC-ECH98PLUS-002	4.5	6	20
4×0.14	FC-ECH98PLUS-003	5.0	7	25
8×0.14	FC-ECH98PLUS-004	6.5	15	45
0.25 mm²				
3×0.25	FC-ECH98PLUS-005	5.0	10	29
4×0.25	FC-ECH98PLUS-006	5.5	14	36

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
8×0.25	FC-ECH98PLUS-007	7.5	29	68
0.34 mm²				
4×0.34	FC-ECH98PLUS-008	6.0	15	38
0.5 mm²				
4×0.5	FC-ECH98PLUS-009	6.0	32	53

FEICHUN CABLE

08 FC-ECH99 TPE · C

chainflex CF99 Equivalent

6 variants

Shielded miniature control cable, TPE outer jacket, for heaviest-duty drag-chain applications with very small radii

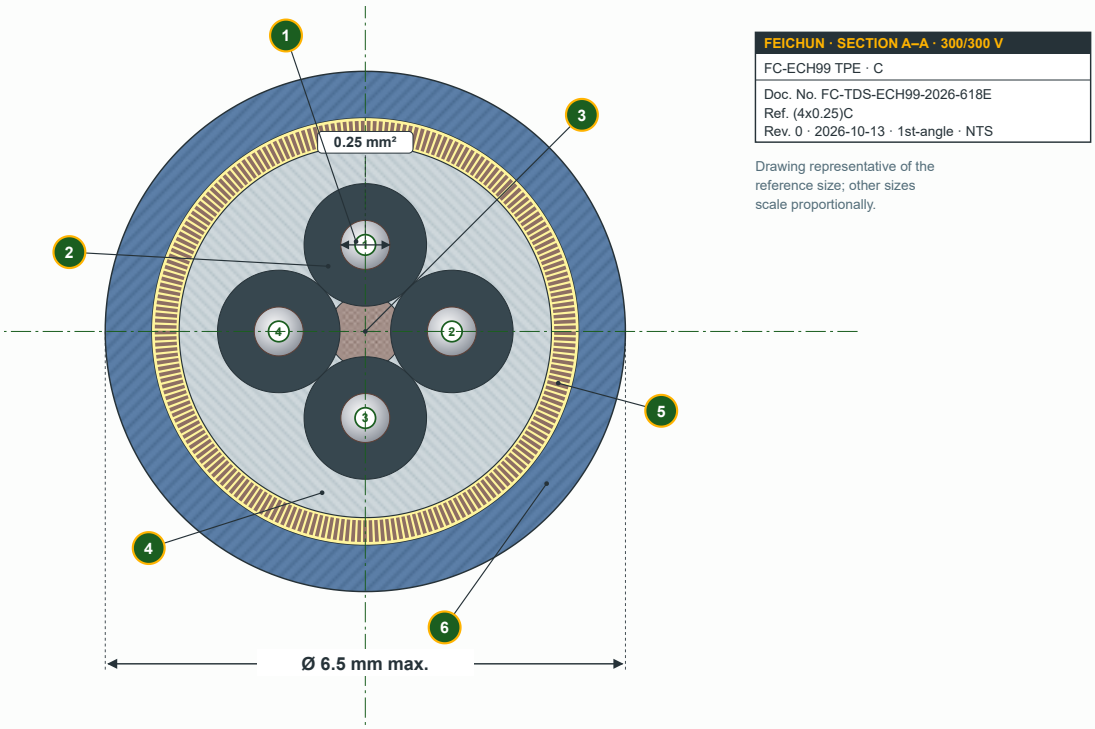
Heaviest-duty drag-chain use with very small bending radii; very short, very fast travel in restricted installation space; pick-and-place machines, automatic doors, cleanroom equipment and very quick handling. Indoor and outdoor use (UV-resistant); almost unlimited resistance to oils and bio-oils; low-temperature flexible, hydrolysis- and microbe-resistant. Overall shield for EMC-sensitive signals.

6 variants
Conductor range 0.14 – 0.34 mm²

300/300 V
Nominal voltage, test 1500 V

4 × d
Min. bending radius in the e-chain

TPE
Outer jacket, shielded



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE compound
3	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
4	Inner jacket	TPE compound adapted for e-chains
5	Overall shield	Extremely bend-resistant braid of special alloy wires, approx. 70 % linear / 90 % optical coverage
6	Outer jacket	TPE, steel blue (similar to RAL 5011)

Construction details

Element	Description
Conductor	Highly flexible special alloy conductor
Core insulation	Mechanically high-quality TPE compound
Core structure	Cores wound in one layer with short pitch length
Inner jacket	TPE compound adapted for e-chains
Overall shield	Extremely bend-resistant braid of special alloy wires, approx. 70 % linear / 90 % optical coverage
Outer jacket	Low-adhesion, abrasion-resistant TPE compound adapted for e-chains, steel blue (similar to RAL 5011)

Key technical data

Parameter	Value
Bending radius, e-chain linear	min. 4 × d
Bending radius, flexible	min. 4 × d
Bending radius, fixed	min. 3 × d
Temperature, e-chain linear	−35 °C to +90 °C
Temperature, flexible	−50 °C to +90 °C (DIN EN 60811-504)
Temperature, fixed	−55 °C to +90 °C (DIN EN 50305)
v max, unsupported	10 m/s
v max, gliding	6 m/s
a max	100 m/s²
Travel distance	Unsupported travel; gliding up to approx. 400 m

Parameter	Value
Torsion	Not designed for torsion (class 1)
Service life (R min, 20 / 30 / 40 million double strokes)	−35/−25 °C: 5 / 6 / 7 × d; −25/+80 °C: 4 / 5 / 6 × d; +80/+90 °C: 5 / 6 / 7 × d
Oil resistance	DIN EN 60811-404; bio-oil-resistant to VDMA 24568 (Plantocut 8 S-MB, tested by DEA), class 4
UV resistance	High
Halogen-free	Yes (DIN EN 60754), PVC-free
Silicone-free	Yes (PV 3.10.7)
Cleanroom	ISO Class 1 (outer jacket per CF9.15.07, IPA test to ISO 14644-1)
Lead-free	2011/65/EU (RoHS II)
Approvals	EAC; CE (2014/35/EU)

Dimensions, Weights & Ratings — FC-ECH99 TPE · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.14 mm²				
(2×0.14)C	FC-ECH99-001	5.5	14	33

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
(4×0.14)C	FC-ECH99-002	6.0	21	43
(8×0.14)C	FC-ECH99-003	8.0	36	69
0.25 mm²				
(4×0.25)C	FC-ECH99-004	6.5	30	56
(7×0.25)C	FC-ECH99-005	8.0	48	85
0.34 mm²				
(8×0.34)C	FC-ECH99-006	9.0	64	105

FEICHUN CABLE

09 FC-ECH99.PLUS TPE · C

chainflex CF99.PLUS Equivalent

6 variants

Shielded TPE control cable for the heaviest-duty drag-chain applications with very small bending radii down to 3 × d

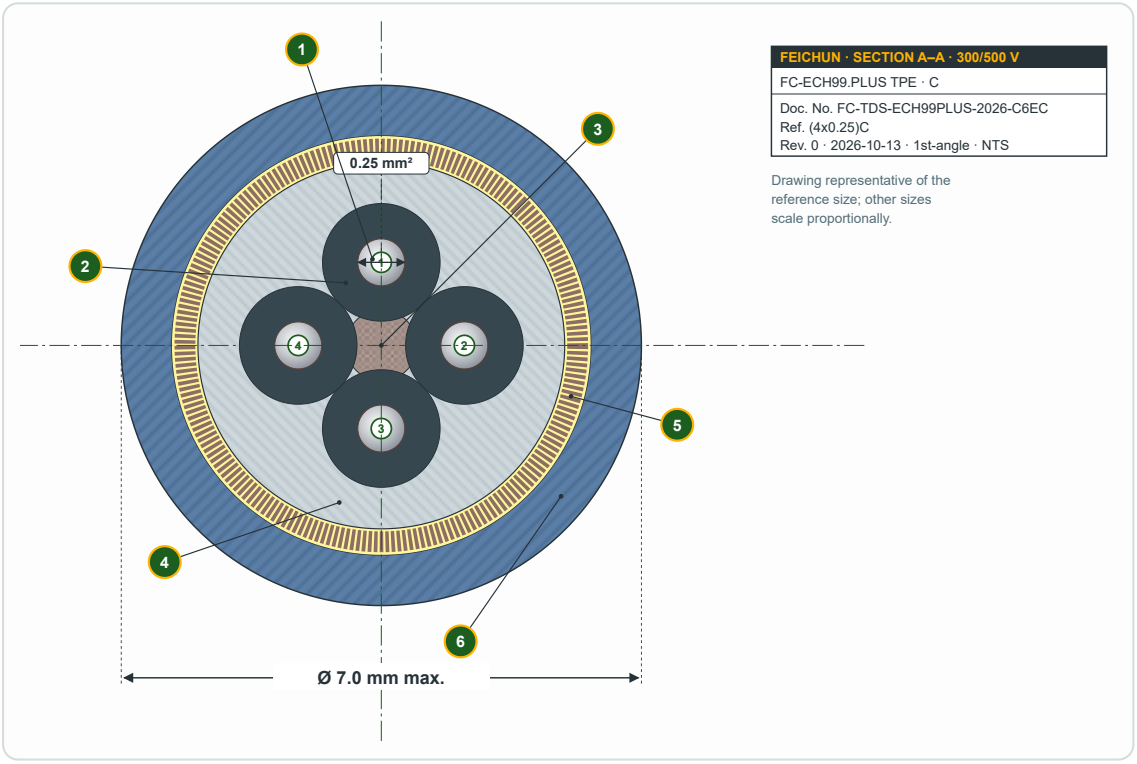
Heaviest-duty, short and very fast travels with small radii (down to 3 × d) and restricted installation space; oil and bio-oil exposure; indoor and outdoor use. Typical uses include pick-and-place machines, automatic doors, rapid handling systems and cleanroom equipment.

6 variants
Conductor range 0.14 – 0.34 mm²

300/500 V
Nominal voltage, test 2000 V

3 × d
Min. bending radius in the e-chain

TPE
Outer jacket, shielded



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
4	Inner jacket	Pressure-extruded, gusset-filling TPE
5	Overall shield	Highly bend-resistant braid of alloy wires; coverage approx. 70 % linear, approx. 90 % optical
6	Outer jacket	TPE, halogen-free, steel blue (similar to RAL 5011), white printing

Construction details

Element	Description
Conductor	Highly flexible special alloy conductor
Core insulation	Mechanically high-quality TPE mixture
Core structure	Cores wound in one layer with a particularly short pitch length around a tensile-stress-resistant centre element (strain relief)
Inner jacket	Pressure-extruded, gusset-filling TPE
Banding	Plastic fleece
Overall shield	Highly bend-resistant braid of alloy wires; coverage approx. 70 % linear, approx. 90 % optical
Outer jacket	Pressure-extruded, low-adhesion, highly abrasion-resistant, halogen-free TPE mixture; steel blue (similar to RAL 5011), white printing

Key technical data

Parameter	Value
Max. current at 30 °C	0.14 mm^2: 2.5 A; 0.25 mm^2: 5 A; 0.34 mm^2: 7 A
Bending radius, e-chain linear (min.)	3 × d
Bending radius, flexible (min.)	3 × d
Bending radius, fixed (min.)	3 × d
Bending radius vs temperature (5 / 40 / 100 million double strokes)	-35 to −25 °C: 4 / 6 / 7 × d; -25 to +80 °C: 3 / 5 / 6 × d; +80 to +90 °C: 4 / 6 / 7 × d
Temperature, e-chain linear	-35 °C to +90 °C
Temperature, flexible	-50 °C to +90 °C
Temperature, fixed	-55 °C to +90 °C
v max unsupported	10 m/s
v max gliding	6 m/s

Parameter	Value
a max	100 m/s^2
Travel distance	Short, very fast travels (class 5)
Torsion	No torsion (class 1)
Oil resistance	Oil-resistant (DIN EN 60811-404); bio-oil resistant (VDMA 24568, Plantocut 8 S-MB), class 4
UV resistance	High (indoor and outdoor use)
Halogen-free	Yes (DIN EN 60754); PVC-free
Other	Low-temperature-flexible, hydrolysis- and microbe-resistant, silicone-free (PV 3.10.7), PTFE-free
Cleanroom	ISO Class 1 (outer jacket, IPA tested to DIN EN ISO 14644-1)
Approvals	CE (2014/35/EU), RoHS-II lead-free, REACH; UL-verified service-life calculation (certificate V293650)
Max. conductor resistance at 20 °C	0.14 mm^2: 140 Ω/km; 0.25 mm^2: 88 Ω/km; 0.34 mm^2: 72 Ω/km

Dimensions, Weights & Ratings — FC-ECH99.PLUS TPE · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.14 mm²				
(2×0.14)C	FC-ECH99PLUS-001	6.0	12	39
(4×0.14)C	FC-ECH99PLUS-002	6.5	16	48
(8×0.14)C	FC-ECH99PLUS-003	8.0	28	76
0.25 mm²				
(4×0.25)C	FC-ECH99PLUS-004	7.0	23	60
(8×0.25)C	FC-ECH99PLUS-005	9.0	42	99
0.34 mm²				
(8×0.34)C	FC-ECH99PLUS-006	9.5	45	111

FEICHUN CABLE

10 FC-ECH130.UL PVC

chainflex CF130.UL Equivalent

55 variants

Unshielded PVC control cable for medium-duty drag-chain applications, flame-retardant, UL/CSA AWM

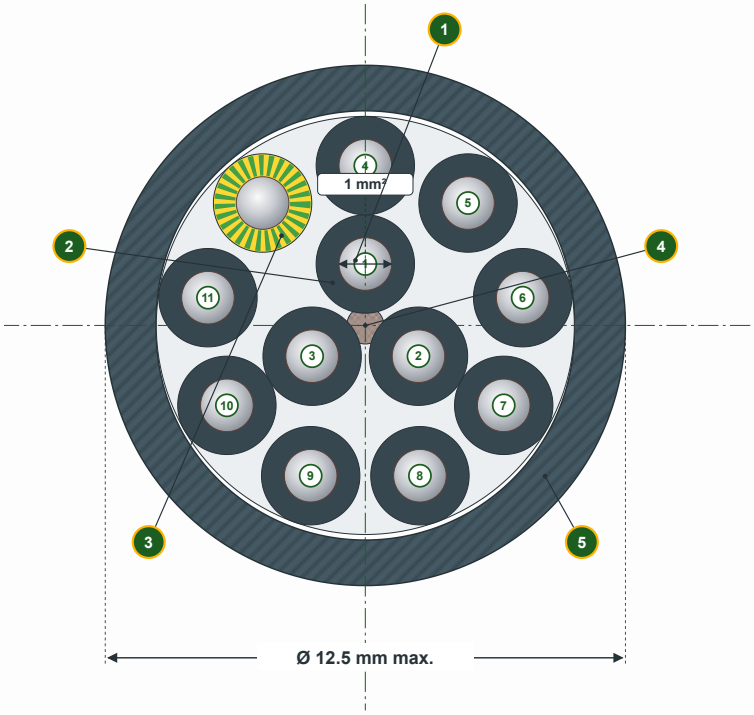
Medium-duty drag-chain applications with unsupported travels and gliding travels up to 50 m, without oil influence, torsion ±90° per 1 m cable length; preferably indoor use. Typical uses include wood and stone processing, the packaging industry, and feeding, handling and adjusting equipment.

55 variants
Conductor range 0.25 – 6 mm²

300/500 V
Nominal voltage, test 2000 V

7.5 × d
Min. bending radius in the e-chain

PVC
Outer jacket



FEICHUN · SECTION A–A · 300/500 V
FC-ECH130.UL PVC
Doc. No. FC-TDS-ECH130UL-2026-1F6E
Ref. 12G1.0
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Outer jacket	PVC, silver grey (similar to RAL 7001), black printing

Construction details

Element	Description
Conductor	Finely stranded bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality TPE mixture
Core structure	Fewer than 12 cores: wound in one layer with short pitch length; 12 cores and above: wound in bundles around a high-tensile centre element with short pitch lengths and optimised pitch directions (low-torsion)
Strain relief	Tensile-stress-resistant centre element
Outer jacket	Pressure-extruded, gusset-filling, low-adhesion PVC mixture; silver grey (similar to RAL 7001), black printing; CFRIP tear strip moulded into the outer jacket

Key technical data

Parameter	Value
Max. current at 30 °C	0.25: 5; 0.34: 7; 0.5: 10; 0.75: 13; 1.0: 15; 1.5: 19; 2.5: 27; 4: 37; 6: 48 A
Bending radius, e-chain linear (min.)	7.5 × d (17.5 × d for 7G1.5 and 7G2.5 with gliding travel ≥ 5 m)
Bending radius, flexible (min.)	6 × d
Bending radius, fixed (min.)	4 × d
Bending radius vs service life	Service-life bending radius (5 / 7.5 / 10 million double strokes, travel <10 m | ≥10 m): +5 to +15 °C: 10|12.5 / 11|13.5 / 12|14.5 × d; +15 to +60 °C: 7.5|10 / 8.5|11 / 9.5|12 × d; +60 to +70 °C: 10|12.5 / 11|13.5 / 12|14.5 × d
Temperature, e-chain linear	+5 °C to +70 °C
Temperature, flexible	-5 °C to +70 °C (DIN EN 60811-504)
Temperature, fixed	-15 °C to +70 °C (DIN EN 50305)
v max unsupported	3 m/s
v max gliding	2 m/s

Parameter	Value
a max	20 m/s^2
Travel distance	Unsupported travels and gliding travels up to 50 m (class 4)
Torsion	±90° with 1 m cable length (class 2)
Oil resistance	Use without influence of oil (class 1)
UV resistance	Not stated (preferably indoor use)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
Other	Silicone-free (PV 3.10.7), PTFE-free, lead-free (RoHS-II), REACH compliant
Cleanroom	ISO Class 1 (outer jacket, IPA tested to DIN EN ISO 14644-1)
Approvals	UL/CSA AWM Style 20200 (jacket) / 10493 (core), I/II A/B, 60 °C, 300 V, VW-1, FT1 (file E310776); NFPA 79-2018 ch. 12.9; CE (2014/35/EU); UKCA; UL-verified service-life calculation (certificate V293650)
Max. conductor resistance at 20 °C	0.25: 79; 0.34: 57; 0.5: 39; 0.75: 26; 1.0: 19.5; 1.5: 13.3; 2.5: 8; 4: 4.95; 6: 3.3 Ω/km

Dimensions, Weights & Ratings — FC-ECH130.UL PVC

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.25 mm²				
3×0.25	FC-ECH130UL-001	5.0	9	26
4×0.25	FC-ECH130UL-002	5.5	11	35
6×0.25	FC-ECH130UL-003	6.0	16	48
7×0.25	FC-ECH130UL-004	6.5	19	56
12×0.25	FC-ECH130UL-005	8.5	33	96
18×0.25	FC-ECH130UL-006	10.0	46	123
20×0.25	FC-ECH130UL-007	10.5	51	145
25×0.25	FC-ECH130UL-008	11.5	66	164
30×0.25	FC-ECH130UL-009	12.5	75	188
0.34 mm²				
2×0.34	FC-ECH130UL-010	5.0	8	27
5×0.34	FC-ECH130UL-011	6.0	18	42
0.5 mm²				
2×0.5	FC-ECH130UL-012	5.5	11	38
3G0.5	FC-ECH130UL-013	5.5	16	40
4G0.5	FC-ECH130UL-014	6.0	21	47
5G0.5	FC-ECH130UL-015	6.5	26	56
7G0.5	FC-ECH130UL-016	7.5	37	76
12G0.5	FC-ECH130UL-017	10.0	63	140
18G0.5	FC-ECH130UL-018	12.0	94	192
25G0.5	FC-ECH130UL-019	13.5	129	259
0.75 mm²				
2×0.75	FC-ECH130UL-020	6.0	16	48
3G0.75	FC-ECH130UL-021	6.0	23	50
4G0.75	FC-ECH130UL-022	6.5	31	60
5G0.75	FC-ECH130UL-023	7.0	38	70
7G0.75	FC-ECH130UL-024	8.0	54	96
12G0.75	FC-ECH130UL-025	11.0	91	175
18G0.75	FC-ECH130UL-026	13.5	134	248
25G0.75	FC-ECH130UL-027	16.0	186	346
36G0.75	FC-ECH130UL-028	19.0	293	531
42G0.75	FC-ECH130UL-029	21.0	341	608
1.0 mm²				
2×1.0	FC-ECH130UL-030	6.0	21	55
3G1.0	FC-ECH130UL-031	6.5	31	61
4G1.0	FC-ECH130UL-032	7.0	41	74
5G1.0	FC-ECH130UL-033	7.5	50	87
7G1.0	FC-ECH130UL-034	9.0	71	118

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
12G1.0	FC-ECH130UL-035	12.5	120	228
18G1.0	FC-ECH130UL-036	15.0	179	308
25G1.0	FC-ECH130UL-037	17.5	248	410
1.5 mm²				
2×1.5	FC-ECH130UL-038	6.5	31	71
3G1.5	FC-ECH130UL-039	7.0	46	76
4G1.5	FC-ECH130UL-040	8.0	61	93
5G1.5	FC-ECH130UL-041	8.5	75	111
7G1.5	FC-ECH130UL-042	10.5	105	166
12G1.5	FC-ECH130UL-043	13.0	179	288
18G1.5	FC-ECH130UL-044	17.0	268	438
25G1.5	FC-ECH130UL-045	19.5	371	563
36G1.5	FC-ECH130UL-046	23.0	579	887
2.5 mm²				
3G2.5	FC-ECH130UL-047	8.5	75	118
4G2.5	FC-ECH130UL-048	9.5	100	149
7G2.5	FC-ECH130UL-049	12.0	174	250
12G2.5	FC-ECH130UL-050	16.5	297	445
4.0 mm²				
3G4.0	FC-ECH130UL-051	10.0	119	209
4G4.0	FC-ECH130UL-052	11.0	159	245
5G4.0	FC-ECH130UL-053	12.0	198	294
6.0 mm²				
4G6.0	FC-ECH130UL-054	13.0	237	392
5G6.0	FC-ECH130UL-055	14.0	299	471

11 FC-ECH140.UL PVC · C

chainflex CF140.UL Equivalent

32 variants

Shielded PVC control cable for medium-duty drag-chain applications, flame-retardant, UL/CSA AWM

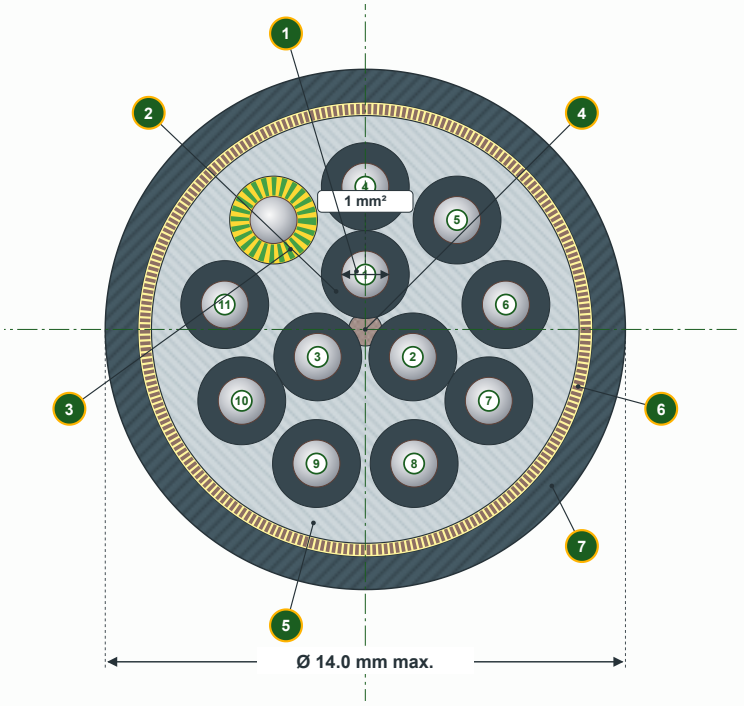
Medium-duty drag-chain applications requiring an overall shield, with unsupported travels and gliding travels up to 50 m, without oil influence and without torsion; preferably indoor use. Typical uses include wood and stone processing, the packaging industry, and feeding, handling and adjusting equipment.

32 variants
Conductor range 0.25 – 2.5 mm²

300/500 V
Nominal voltage, test 2000 V

7.5 × d
Min. bending radius in the e-chain

PVC
Outer jacket, shielded



FEICHUN · SECTION A–A · 300/500 V
FC-ECH140.UL PVC · C
Doc. No. FC-TDS-ECH140UL-2026-54A3
Ref. (12G1.0)C
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Inner jacket	Gusset-filling PVC mixture; CFRIP tear strip moulded into the inner jacket
6	Overall shield	Bend-resistant braid of tinned copper wires; coverage approx. 55 % linear, approx. 80 % optical
7	Outer jacket	PVC, silver grey (similar to RAL 7001), black printing

Construction details

Element	Description
Conductor	Finely stranded bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality TPE mixture
Core structure	Fewer than 12 cores: wound in one layer with short pitch length; 12 cores and above: wound in bundles around a high-tensile centre element with short pitch lengths and optimised pitch directions (low-torsion)
Inner jacket	Gusset-filling PVC mixture; CFRIP tear strip moulded into the inner jacket
Overall shield	Bend-resistant braid of tinned copper wires; coverage approx. 55 % linear, approx. 80 % optical
Outer jacket	Low-adhesion PVC mixture (DIN EN 50363-4-1); silver grey (similar to RAL 7001), black printing

Key technical data

Parameter	Value
Bending radius, e-chain linear (min.)	7.5 × d (17.5 × d for 7G1.5 and 7G2.5 with gliding travel ≥ 5 m)
Bending radius, flexible (min.)	6 × d
Bending radius, fixed (min.)	4 × d
Bending radius vs service life	Service-life bending radius (5 / 7.5 / 10 million double strokes, travel <10 m | ≥10 m): +5 to +15 °C: 10|12.5 / 11|13.5 / 12|14.5 × d; +15 to +60 °C: 7.5|10 / 8.5|11 / 9.5|12 × d; +60 to +70 °C: 10|12.5 / 11|13.5 / 12|14.5 × d
Temperature, e-chain linear	+5 °C to +70 °C
Temperature, flexible	-5 °C to +70 °C (DIN EN 60811-504)
Temperature, fixed	-15 °C to +70 °C (DIN EN 50305)
v max unsupported	3 m/s
v max gliding	2 m/s

Parameter	Value
a max	20 m/s^2
Travel distance	Unsupported travels and gliding travels up to 50 m (class 4)
Torsion	No torsion (class 1)
Oil resistance	Use without influence of oil (class 1)
UV resistance	Not stated (preferably indoor use)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
Other	Silicone-free (PV 3.10.7), PTFE-free, lead-free (RoHS-II), REACH compliant
Cleanroom	ISO Class 1 (outer jacket, IPA tested to DIN EN ISO 14644-1)
Approvals	UL/CSA AWM Style 20200 (jacket) / 10493 (core), 60 °C, 300 V, VW-1, FT1 (cURus E310776); NFPA 79-2018 ch. 12.9; CE (2014/35/EU); UKCA; UL-verified service-life calculation (certificate V293650)

Dimensions, Weights & Ratings — FC-ECH140.UL PVC · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.25 mm²				
(12×0.25)C	FC-ECH140UL-001	10.5	72	133
0.34 mm²				
(5×0.34)C	FC-ECH140UL-002	7.5	36	72
0.5 mm²				
(3G0.5)C	FC-ECH140UL-003	7.0	33	72
(4G0.5)C	FC-ECH140UL-004	7.5	38	81
(5G0.5)C	FC-ECH140UL-005	8.0	45	91
(18G0.5)C	FC-ECH140UL-006	14.5	147	258
(36G0.5)C	FC-ECH140UL-007	18.5	258	468
0.75 mm²				
(3G0.75)C	FC-ECH140UL-008	8.0	42	85
(4G0.75)C	FC-ECH140UL-009	8.5	51	102
(5G0.75)C	FC-ECH140UL-010	9.0	61	115
(7G0.75)C	FC-ECH140UL-011	10.0	83	152
(12G0.75)C	FC-ECH140UL-012	13.0	136	263
(18G0.75)C	FC-ECH140UL-013	15.5	194	359
(25G0.75)C	FC-ECH140UL-014	18.0	261	479
1.0 mm²				
(2×1.0)C	FC-ECH140UL-015	8.0	35	86
(3G1.0)C	FC-ECH140UL-016	8.5	51	105
(4G1.0)C	FC-ECH140UL-017	9.0	62	118
(5G1.0)C	FC-ECH140UL-018	9.5	74	136
(7G1.0)C	FC-ECH140UL-019	10.5	104	176
(12G1.0)C	FC-ECH140UL-020	14.0	166	300
(18G1.0)C	FC-ECH140UL-021	16.5	240	413
(25G1.0)C	FC-ECH140UL-022	19.5	325	562
1.5 mm²				
(3G1.5)C	FC-ECH140UL-023	9.0	68	126
(4G1.5)C	FC-ECH140UL-024	9.5	86	146
(5G1.5)C	FC-ECH140UL-025	9.5	108	168
(7G1.5)C	FC-ECH140UL-026	11.5	144	226
(12G1.5)C	FC-ECH140UL-027	16.0	233	387
(18G1.5)C	FC-ECH140UL-028	19.0	346	463
(25G1.5)C	FC-ECH140UL-029	22.5	464	737
(36G1.5)C	FC-ECH140UL-030	26.5	663	1,150
2.5 mm²				
(3G2.5)C	FC-ECH140UL-031	10.5	106	202

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
(4G2.5)C	FC-ECH140UL-032	11.5	140	210

FEICHUN CABLE

12 FC-ECH150.UL PVC

chainflex CF150.UL Equivalent

19 variants

Unshielded oil-resistant PVC control cable for medium-duty drag-chain applications, flame-retardant, UL TC-ER listed

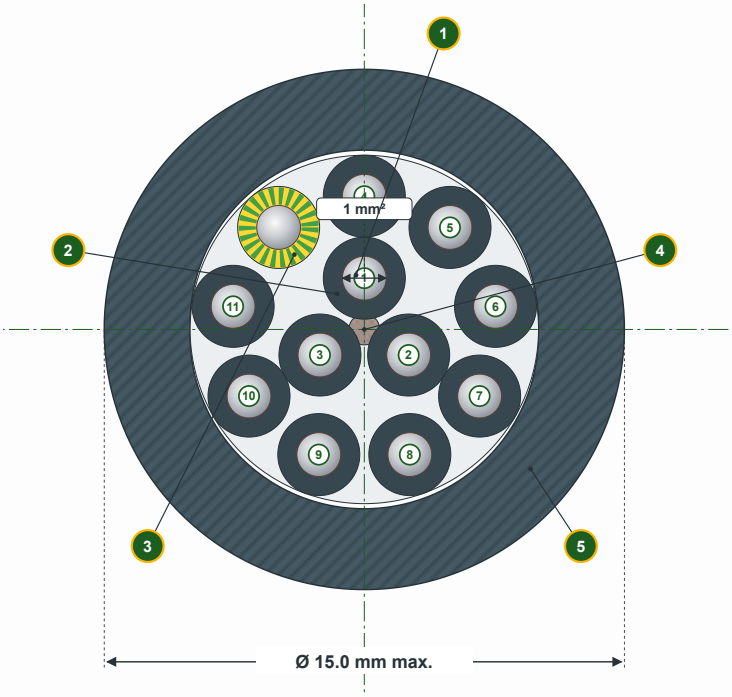
Medium-duty drag-chain applications with unsupported travels and gliding travels up to 50 m, light oil influence and torsion ±90° per 1 m cable length; mainly indoor use, outdoor at temperatures above +5 °C. Typical uses include storage and retrieval units for high-bay warehouses, machining units and packaging machines, quick handling, indoor cranes and cable-tray installation (TC-ER).

19 variants
Conductor range 1 – 2.5 mm²

300/500 V
Nominal voltage, test 2000 V

7.5 × d
Min. bending radius in the e-chain

PVC
Outer jacket



FEICHUN · SECTION A–A · 300/500 V
FC-ECH150.UL PVC
Doc. No. FC-TDS-ECH150UL-2026-3CE9
Ref. 12G1.0
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	PVC/PA mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Outer jacket	PVC, oil-resistant, jet black (similar to RAL 9005)

Construction details

Element	Description
Conductor	Finely stranded bare copper wires (DIN EN 60228)
Core insulation	PVC/PA mixture
Core structure	Fewer than 12 cores: wound in one layer with short pitch length; 12 cores and above: wound in bundles around a high-tensile centre element with optimised pitch lengths and directions (low-torsion)
Outer jacket	Low-adhesion, oil-resistant PVC mixture (DIN EN 50363-4-1); jet black (similar to RAL 9005); CFRIP tear strip moulded into the outer jacket

Key technical data

Parameter	Value
Bending radius, e-chain linear (min.)	7.5 × d (17.5 × d for 7G1.5 and 7G2.5 with gliding travel ≥ 5 m)
Bending radius, flexible (min.)	6 × d
Bending radius, fixed (min.)	4 × d
Bending radius vs service life	Service-life bending radius (5 / 7.5 / 10 million double strokes, travel <10 m | ≥10 m): +5 to +15 °C: 10|12.5 / 11|13.5 / 12|14.5 × d; +15 to +60 °C: 7.5|10 / 8.5|11 / 9.5|12 × d; +60 to +70 °C: 10|12.5 / 11|13.5 / 12|14.5 × d
Temperature, e-chain linear	+5 °C to +70 °C
Temperature, flexible	-5 °C to +70 °C (DIN EN 60811-504)
Temperature, fixed	-15 °C to +70 °C (DIN EN 50305)
v max unsupported	3 m/s
v max gliding	2 m/s

Parameter	Value
a max	20 m/s²
Travel distance	Unsupported travels and gliding travels up to 50 m (class 4)
Torsion	±90° with 1 m cable length (class 2)
Oil resistance	Oil-resistant (DIN EN 50363-4-1), UL Oil Res I (class 2)
UV resistance	Medium
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame, FT4
Other	Silicone-free (PV 3.10.7), PTFE-free, lead-free (RoHS-II), REACH compliant
Cleanroom	Not stated
Approvals	UL-listed TC-ER (UL 1277) 600 V, WTTC (UL 2277) 1000 V, MTW 600 V; UL/CSA AWM Style 2587 (jacket) / 10493 (core), 600 V, 90 °C; NEC Art. 501 Part II and Art. 502 Part II (Class I/II, Div. 2); FT4; NFPA 79-2018 ch. 12.9; CE (2014/35/EU); UL-verified service-life calculation (certificate V293650)

Dimensions, Weights & Ratings — FC-ECH150.UL PVC

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
1.0 mm²				

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
3G1.0	FC-ECH150UL-001	8.0	30	78
4G1.0	FC-ECH150UL-002	8.5	40	94
5G1.0	FC-ECH150UL-003	9.0	50	112
7G1.0	FC-ECH150UL-004	10.5	70	155
12G1.0	FC-ECH150UL-005	15.0	119	281
18G1.0	FC-ECH150UL-006	19.0	178	425
1.5 mm²				
3G1.5	FC-ECH150UL-007	8.5	45	98
4G1.5	FC-ECH150UL-008	9.0	60	122
5G1.5	FC-ECH150UL-009	10.0	75	148
7G1.5	FC-ECH150UL-010	12.0	104	205
12G1.5	FC-ECH150UL-011	16.5	178	365
18G1.5	FC-ECH150UL-012	21.0	267	529
25G1.5	FC-ECH150UL-013	24.5	371	746
2.5 mm²				
3G2.5	FC-ECH150UL-014	9.5	75	133
4G2.5	FC-ECH150UL-015	10.0	100	164
5G2.5	FC-ECH150UL-016	11.0	124	200
7G2.5	FC-ECH150UL-017	13.5	173	291
12G2.5	FC-ECH150UL-018	18.5	297	502
18G2.5	FC-ECH150UL-019	24.5	445	808

13 FC-ECH160.UL PVC · C

chainflex CF160.UL Equivalent

18 variants

Shielded oil-resistant PVC control cable for medium-duty drag-chain applications, flame-retardant, UL TC-ER listed

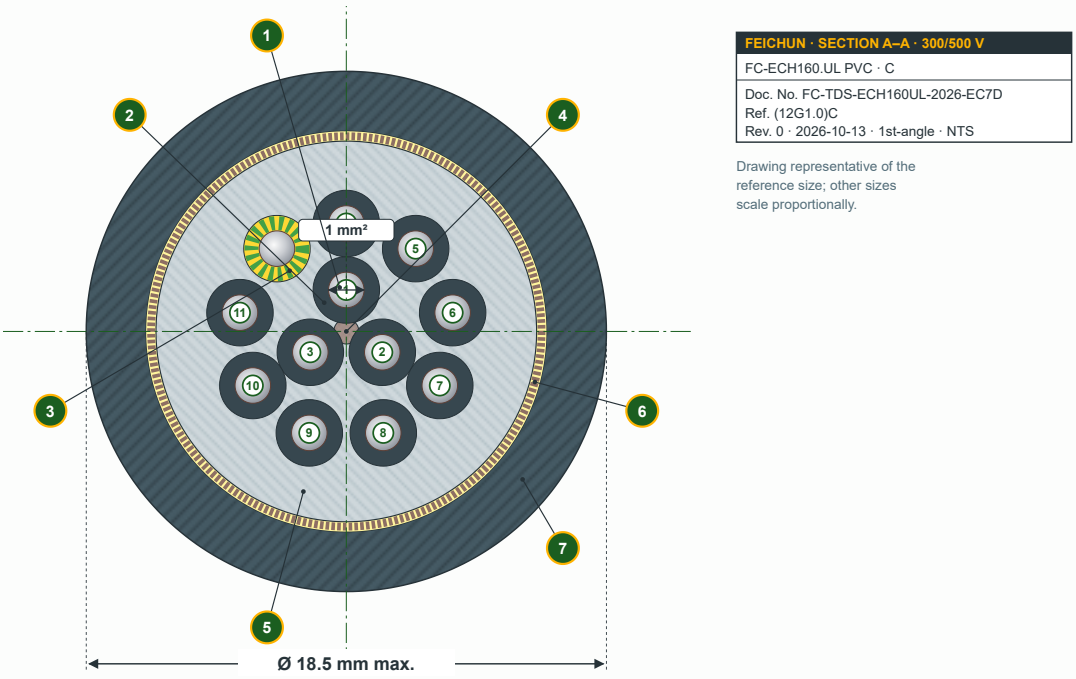
Medium-duty drag-chain applications requiring an overall shield, with unsupported travels and gliding travels up to 50 m and light oil influence; mainly indoor use, outdoor at temperatures above +5 °C. Typical uses include storage and retrieval units for high-bay warehouses, machining units and packaging machines, quick handling, indoor cranes and cable-tray installation (TC-ER).

18 variants
Conductor range 1 – 2.5 mm²

300/500 V
Nominal voltage, test 2000 V

7.5 × d
Min. bending radius in the e-chain

PVC
Outer jacket, shielded



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality PVC/PA mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Inner jacket	PVC mixture adapted for drag chains; CFRIP tear strip moulded into the inner jacket
6	Overall shield	Bend-resistant braid of tinned copper wires; coverage approx. 55 % linear, approx. 80 % optical
7	Outer jacket	PVC, oil-resistant, jet black (similar to RAL 9005)

Construction details

Element	Description
Conductor	Finely stranded bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality PVC/PA mixture
Core structure	Fewer than 12 cores: wound in one layer with short pitch length; 12 cores and above: bundles (12 = 4×3, 18 = 6×3) wound around a high-tensile centre element with optimised pitch lengths and directions (low-torsion)
Strain relief	Tensile-stress-resistant centre element
Inner jacket	PVC mixture adapted for drag chains; CFRIP tear strip moulded into the inner jacket
Overall shield	Bend-resistant braid of tinned copper wires; coverage approx. 55 % linear, approx. 80 % optical
Outer jacket	Low-adhesion, oil-resistant PVC mixture (DIN EN 50363-4-1); jet black (similar to RAL 9005)

Key technical data

Parameter	Value
Max. current at 30 °C	1.0: 15; 1.5: 18; 2.5: 26 A
Bending radius, e-chain linear (min.)	7.5 × d (17.5 × d for 7G1.5 and 7G2.5 with gliding travel ≥ 5 m)
Bending radius, flexible (min.)	6 × d
Bending radius, fixed (min.)	4 × d
Bending radius vs service life	Service-life bending radius (5 / 7.5 / 10 million double strokes, travel <10 m | ≥10 m): +5 to +15 °C: 10|12.5 / 11|13.5 / 12|14.5 × d; +15 to +60 °C: 7.5|10 / 8.5|11 / 9.5|12 × d; +60 to +70 °C: 10|12.5 / 11|13.5 / 12|14.5 × d
Temperature, e-chain linear	+5 °C to +70 °C
Temperature, flexible	-5 °C to +70 °C (DIN EN 60811-504)
Temperature, fixed	-15 °C to +70 °C (DIN EN 50305)
v max unsupported	3 m/s
v max gliding	2 m/s

Parameter	Value
a max	20 m/s^2
Travel distance	Unsupported travels and gliding travels up to 50 m (class 4)
Torsion	Not stated (low-torsion core structure)
Oil resistance	Oil-resistant (DIN EN 50363-4-1), UL Oil Res I (class 2)
UV resistance	Medium
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame, FT4
Other	Silicone-free (PV 3.10.7), PTFE-free, lead-free (RoHS-II), REACH compliant
Cleanroom	Not stated

Parameter	Value
Approvals	UL-listed TC-ER (UL 1277) 600 V, WTTC (UL 2277) 1000 V, MTW 600 V; UL/CSA AWM Style 2587 (jacket) / 10493 (core), 600 V, 90 °C; NEC Art. 501 Part II and Art. 502 Part II (Class I/II, Div. 2); FT4; NFPA 79-2018 ch. 12.9; CE (2014/35/EU); UL-verified service-life calculation (certificate V293650)
Max. conductor resistance at 20 °C	1.0: 19.5; 1.5: 13.3; 2.5: 8 Ω/km

Dimensions, Weights & Ratings — FC-ECH160.UL PVC · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
1.0 mm²				
(3G1.0)C	FC-ECH160UL-001	9.5	53	121
(4G1.0)C	FC-ECH160UL-002	10.0	66	143
(5G1.0)C	FC-ECH160UL-003	11.0	77	164
(7G1.0)C	FC-ECH160UL-004	12.5	107	220
(12G1.0)C	FC-ECH160UL-005	18.5	177	389
(18G1.0)C	FC-ECH160UL-006	23.5	280	648
1.5 mm²				
(3G1.5)C	FC-ECH160UL-007	10.0	72	149
(4G1.5)C	FC-ECH160UL-008	11.0	89	175
(5G1.5)C	FC-ECH160UL-009	12.0	105	204
(7G1.5)C	FC-ECH160UL-010	13.5	140	271
(12G1.5)C	FC-ECH160UL-011	20.0	243	478
(18G1.5)C	FC-ECH160UL-012	25.5	373	762
2.5 mm²				
(3G2.5)C	FC-ECH160UL-013	11.0	103	185
(4G2.5)C	FC-ECH160UL-014	12.0	129	219
(5G2.5)C	FC-ECH160UL-015	13.0	159	264
(7G2.5)C	FC-ECH160UL-016	14.5	223	361
(12G2.5)C	FC-ECH160UL-017	23.5	389	688
(18G2.5)C	FC-ECH160UL-018	29.5	573	1,092

14 FC-ECH880 PVC

chainflex CF880 Equivalent

37 variants

Control cable, PVC outer jacket, unshielded, flame-retardant, for low-duty flexing and drag-chain applications

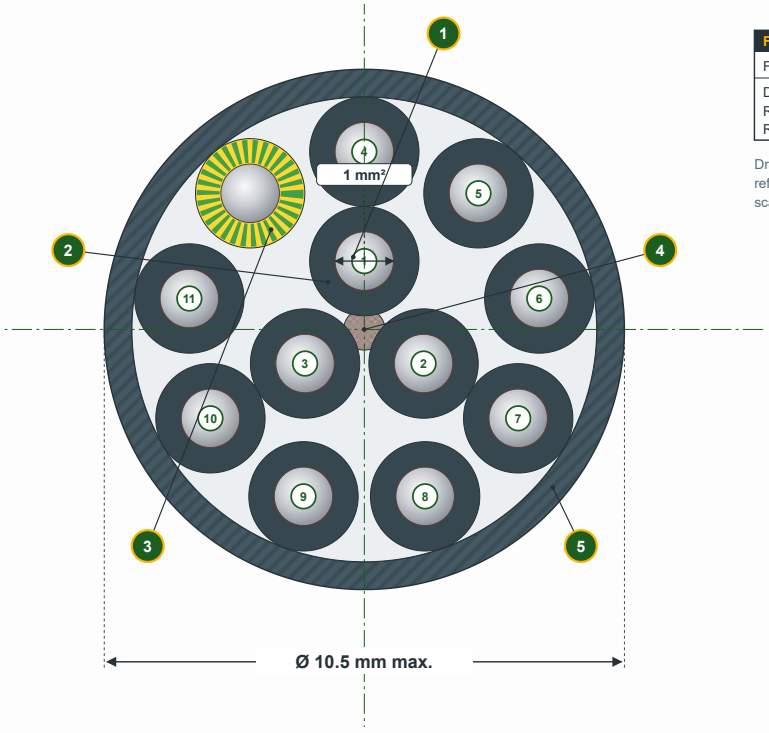
Flexing applications, Class 3; especially for unsupported travels up to 10 m (Class 1); without influence of oil (Class 1); no torsion (Class 1). Preferably indoor applications: wood and stone processing, packaging industry, feeding, handling and adjusting devices.

37 variants
Conductor range 0.5 – 2.5 mm²

300/500 V
Nominal voltage, test 2000 V

12.5 × d
Min. bending radius in the e-chain

PVC
Outer jacket



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Outer jacket	PVC, jet black (similar to RAL 9005), white printing

Construction details

Element	Description
Conductor	Stranded conductor of bare copper wires (following DIN EN 60228)
Core insulation	Mechanically high-quality TPE mixture
Core structure	Cores wound with an optimised pitch length; filling of plastic yarns
Outer jacket	Low-adhesion PVC mixture, pressure extruded, adapted to suit the requirements in e-chains

Key technical data

Parameter	Value
Max. conductor resistance at 20 °C / current rating at 30 °C	0.5 mm^2: 39 Ω/km, 10 A; 0.75 mm^2: 26 Ω/km, 13 A; 1 mm^2: 19.5 Ω/km, 15 A; 1.5 mm^2: 13.3 Ω/km, 19 A; 2.5 mm^2: 8 Ω/km, 27 A
Minimum bending radius, e-chain linear	12.5 × d
Minimum bending radius, flexible	10 × d
Minimum bending radius, fixed	7 × d
Temperature, e-chain linear	+5 °C to +70 °C
Temperature, flexible	−5 °C to +70 °C (following DIN EN 60811-504)
Temperature, fixed	−15 °C to +70 °C (following DIN EN 50305)
v max, unsupported	3 m/s
a max	20 m/s^2
Travel distance	Unsupported travels up to 10 m, Class 1

Parameter	Value
Torsion	No torsion, Class 1
Guaranteed service life (min. bending radius × d at 1 / 3 / 5 million double strokes)	+5/+15 °C: 15 / 16 / 17; +15/+60 °C: 12.5 / 13.5 / 14.5; +60/+70 °C: 15 / 16 / 17
Oil resistance	Without influence of oil, Class 1 (not oil-resistant)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
Silicone-free	Yes (following PV 3.10.7, status 1992)
PTFE/PFAS-free	Yes
UL/CSA AWM	Style 2464 (core insulation style 10493), 300 V, 80 °C; UL-verified (certificate V293650)
NFPA	Following NFPA 79-2018, chapter 12.9
Lead-free / REACH	RoHS-II/RoHS-III (2011/65/EC); REACH (EC) No 1907/2006
CE	Following 2014/35/EU

Dimensions, Weights & Ratings — FC-ECH880 PVC

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.5 mm²				
2×0.5	FC-ECH880-001	5.0	11	32

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
3G0.5	FC-ECH880-002	5.5	16	37
4G0.5	FC-ECH880-003	6.0	21	46
5G0.5	FC-ECH880-004	6.5	26	55
7G0.5	FC-ECH880-005	7.5	37	73
12G0.5	FC-ECH880-006	8.5	63	108
18G0.5	FC-ECH880-007	10.0	94	158
25G0.5	FC-ECH880-008	12.0	128	227
0.75 mm²				
2×0.75	FC-ECH880-009	5.5	16	40
3G0.75	FC-ECH880-010	6.0	24	49
4G0.75	FC-ECH880-011	6.5	32	61
5G0.75	FC-ECH880-012	7.0	40	73
7G0.75	FC-ECH880-013	8.0	56	99
12G0.75	FC-ECH880-014	10.0	94	152
18G0.75	FC-ECH880-015	11.5	140	167
25G0.75	FC-ECH880-016	13.5	194	284
1.0 mm²				
2×1.0	FC-ECH880-017	6.0	21	48
3G1.0	FC-ECH880-018	6.5	32	58
4G1.0	FC-ECH880-019	7.0	42	62
5G1.0	FC-ECH880-020	7.5	52	86
7G1.0	FC-ECH880-021	8.5	73	116
12G1.0	FC-ECH880-022	10.5	124	182
18G1.0	FC-ECH880-023	12.5	186	278
25G1.0	FC-ECH880-024	15.0	258	393
1.5 mm²				
2×1.5	FC-ECH880-025	6.5	32	64
3G1.5	FC-ECH880-026	7.0	47	82
4G1.5	FC-ECH880-027	7.5	63	104
5G1.5	FC-ECH880-028	8.5	78	120
7G1.5	FC-ECH880-029	10.0	109	167
12G1.5	FC-ECH880-030	12.0	186	260
18G1.5	FC-ECH880-031	14.5	279	370
25G1.5	FC-ECH880-032	17.5	387	514
2.5 mm²				
3G2.5	FC-ECH880-033	8.5	78	120
4G2.5	FC-ECH880-034	9.0	103	150
5G2.5	FC-ECH880-035	10.0	129	184
7G2.5	FC-ECH880-036	12.0	181	256
12G2.5	FC-ECH880-037	15.0	327	414

15 FC-ECH881 PVC · C

chainflex CF881 Equivalent

35 variants

Control cable, PVC outer jacket, overall shielded, flame-retardant, for low-duty flexing and drag-chain applications

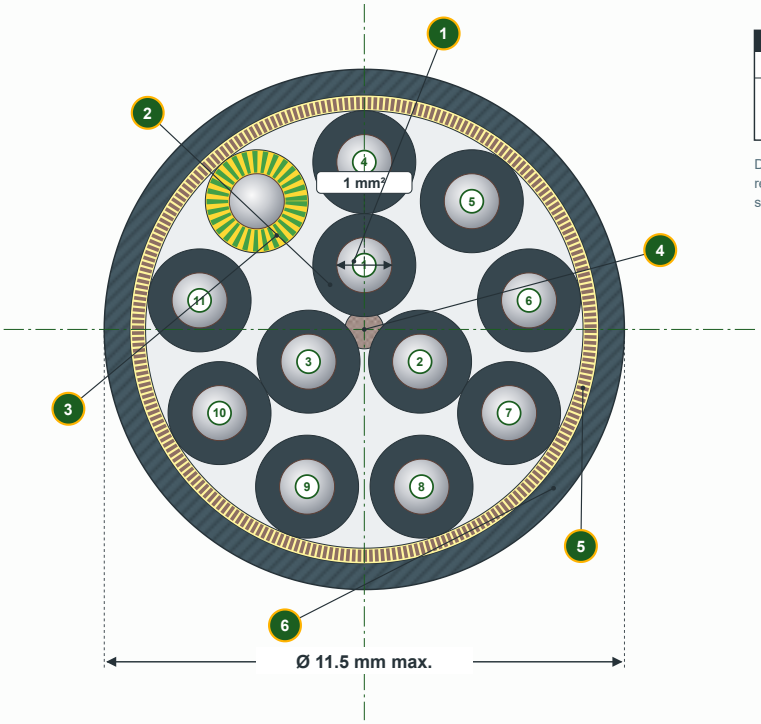
Flexing applications, Class 3; especially for unsupported travels up to 10 m (Class 1); without influence of oil (Class 1); no torsion (Class 1). Preferably indoor applications: wood and stone processing, packaging industry, feeding, handling and adjusting devices where EMC screening is required.

35 variants
Conductor range 0.5 – 2.5 mm²

300/500 V
Nominal voltage, test 2000 V

12.5 × d
Min. bending radius in the e-chain

PVC
Outer jacket, shielded



FEICHUN · SECTION A–A · 300/500 V
FC-ECH881 PVC · C
Doc. No. FC-TDS-ECH881-2026-3327
Ref. (12G1.0)C
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Overall shield	Braid of tinned copper wires, approx. 60 % optical coverage
6	Outer jacket	PVC, jet black (similar to RAL 9005), white printing

Construction details

Element	Description
Conductor	Stranded conductor of bare copper wires (following DIN EN 60228)
Core insulation	Mechanically high-quality TPE mixture
Core structure	Cores wound with an optimised pitch length; filling of plastic yarns
Banding	Plastic foil
Overall shield	Braid of tinned copper wires, approx. 60 % optical coverage
Outer jacket	Low-adhesion PVC mixture, pressure extruded, adapted to suit the requirements in e-chains

Key technical data

Parameter	Value
Max. conductor resistance at 20 °C / current rating at 30 °C	0.5 mm^2: 39 Ω/km, 10 A; 0.75 mm^2: 26 Ω/km, 13 A; 1 mm^2: 19.5 Ω/km, 15 A; 1.5 mm^2: 13.3 Ω/km, 19 A; 2.5 mm^2: 8 Ω/km, 27 A
Minimum bending radius, e-chain linear	12.5 × d
Minimum bending radius, flexible	10 × d
Minimum bending radius, fixed	7 × d
Temperature, e-chain linear	+5 °C to +70 °C
Temperature, flexible	−5 °C to +70 °C (following DIN EN 60811-504)
Temperature, fixed	−15 °C to +70 °C (following DIN EN 50305)
v max, unsupported	3 m/s
a max	20 m/s^2
Travel distance	Unsupported travels up to 10 m, Class 1

Parameter	Value
Torsion	No torsion, Class 1
Guaranteed service life (min. bending radius × d at 1 / 3 / 5 million double strokes)	+5/+15 °C: 15 / 16 / 17; +15/+60 °C: 12.5 / 13.5 / 14.5; +60/+70 °C: 15 / 16 / 17
Oil resistance	Without influence of oil, Class 1 (not oil-resistant)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
Silicone-free	Yes (following PV 3.10.7, status 1992)
PTFE-free	Yes
UL/CSA AWM	Style 2464 (core insulation style 10493), 300 V, 80 °C; UL-verified (certificate V293650)
NFPA	Following NFPA 79-2018, chapter 12.9
Lead-free / REACH	RoHS-II/RoHS-III (2011/65/EC); REACH (EC) No 1907/2006
CE	Following 2014/35/EU

Dimensions, Weights & Ratings — FC-ECH881 PVC · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.5 mm²				
(3G0.5)C	FC-ECH881-001	6.0	28	47
(4G0.5)C	FC-ECH881-002	6.5	35	54
(5G0.5)C	FC-ECH881-003	7.0	41	65
(7G0.5)C	FC-ECH881-004	8.0	59	75
(12G0.5)C	FC-ECH881-005	9.0	91	125
(18G0.5)C	FC-ECH881-006	11.0	136	177
(25G0.5)C	FC-ECH881-007	13.0	210	243
0.75 mm²				
(2×0.75)C	FC-ECH881-008	6.5	30	50
(3G0.75)C	FC-ECH881-009	7.0	37	66
(4G0.75)C	FC-ECH881-010	7.5	46	72
(5G0.75)C	FC-ECH881-011	8.0	61	87
(7G0.75)C	FC-ECH881-012	9.0	83	112
(12G0.75)C	FC-ECH881-013	10.5	124	170
(18G0.75)C	FC-ECH881-014	12.0	183	238
(25G0.75)C	FC-ECH881-015	14.5	222	309
1.0 mm²				
(2×1.0)C	FC-ECH881-016	6.5	30	52
(3G1.0)C	FC-ECH881-017	7.0	46	73
(4G1.0)C	FC-ECH881-018	7.5	63	102
(5G1.0)C	FC-ECH881-019	8.0	76	110
(7G1.0)C	FC-ECH881-020	9.5	100	130
(12G1.0)C	FC-ECH881-021	11.5	167	229
(18G1.0)C	FC-ECH881-022	13.0	213	281
(25G1.0)C	FC-ECH881-023	16.0	291	390
1.5 mm²				
(2×1.5)C	FC-ECH881-024	7.5	60	71
(3G1.5)C	FC-ECH881-025	7.5	63	87
(4G1.5)C	FC-ECH881-026	8.5	90	111
(5G1.5)C	FC-ECH881-027	9.0	94	131
(7G1.5)C	FC-ECH881-028	11.0	153	183
(12G1.5)C	FC-ECH881-029	13.0	212	282
(18G1.5)C	FC-ECH881-030	15.0	399	458
(25G1.5)C	FC-ECH881-031	18.5	425	573
2.5 mm²				
(4G2.5)C	FC-ECH881-032	10.0	141	163
(5G2.5)C	FC-ECH881-033	11.0	149	195
(7G2.5)C	FC-ECH881-034	13.0	204	262

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
(12G2.5)C	FC-ECH881-035	16.0	342	428

FEICHUN CABLE

16 FC-ECH890 iguPUR

chainflex CF890 Equivalent

38 variants

Control cable, iguPUR outer jacket, unshielded, oil-resistant and flame-retardant, for flexing and drag-chain applications

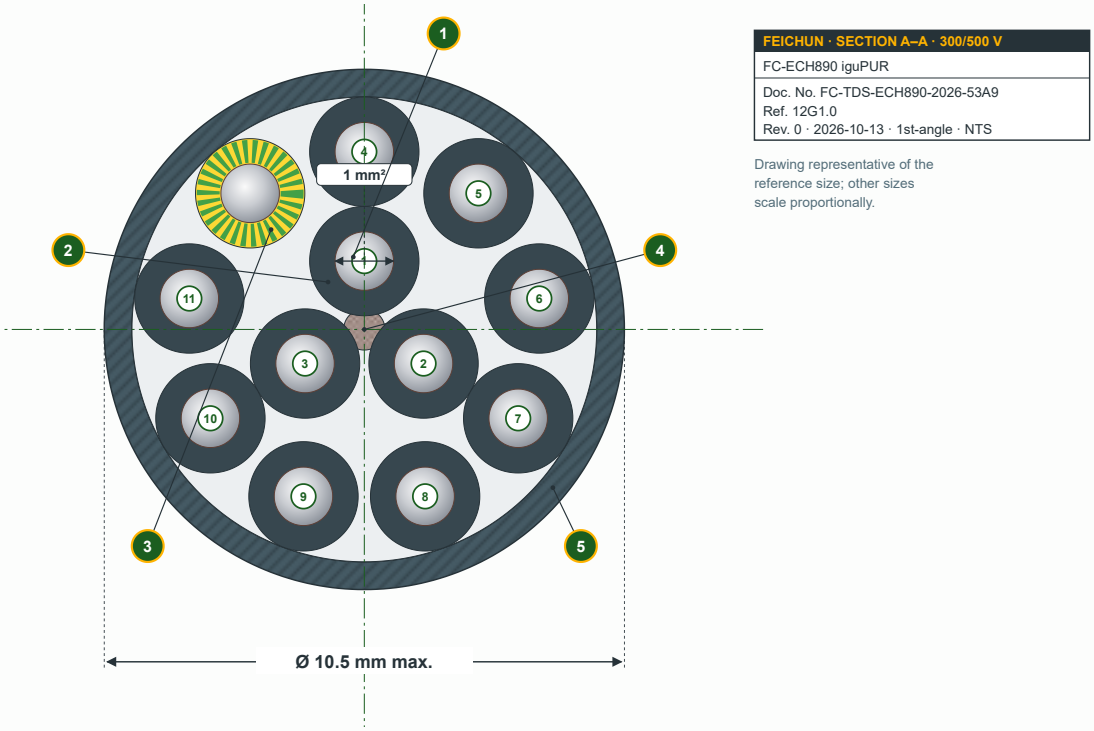
Flexing applications, Class 3; especially for unsupported travels up to 10 m (Class 1); with influence of oil (Class 3); no torsion (Class 1). Indoor and outdoor applications without direct sunlight; machining units, machine tools and low-temperature applications.

38 variants
Conductor range 0.5 – 2.5 mm²

300/500 V
Nominal voltage, test 2000 V

12.5 × d
Min. bending radius in the e-chain

iguPUR
Outer jacket



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Outer jacket	iguPUR, jet black (similar to RAL 9005), white printing

Construction details

Element	Description
Conductor	Stranded conductor of bare copper wires (following DIN EN 60228)
Core insulation	Mechanically high-quality TPE mixture
Core structure	Cores wound with an optimised pitch length; filling of plastic yarns
Outer jacket	Low-adhesion iguPUR mixture, pressure extruded, adapted to suit the requirements in e-chains

Key technical data

Parameter	Value
Max. conductor resistance at 20 °C / current rating at 30 °C	0.5 mm^2: 39 Ω/km, 10 A; 0.75 mm^2: 26 Ω/km, 14 A; 1 mm^2: 19.5 Ω/km, 17 A; 1.5 mm^2: 13.3 Ω/km, 21 A; 2.5 mm^2: 8 Ω/km, 30 A
Minimum bending radius, e-chain linear	12.5 × d
Minimum bending radius, flexible	10 × d
Minimum bending radius, fixed	7 × d
Temperature, e-chain linear	−20 °C to +80 °C
Temperature, flexible	−40 °C to +80 °C (following DIN EN 60811-504)
Temperature, fixed	−50 °C to +80 °C (following DIN EN 50305)
v max, unsupported	3 m/s
a max	20 m/s^2
Travel distance	Unsupported travels up to 10 m, Class 1
Torsion	No torsion, Class 1

Parameter	Value
Guaranteed service life (min. bending radius × d at 1 / 3 / 5 million double strokes)	−20/−10 °C: 15 / 16 / 17; −10/+70 °C: 12.5 / 13.5 / 14.5; +70/+80 °C: 15 / 16 / 17
Oil resistance	Oil-resistant following DIN EN 50363-10-2, Class 3
UV resistance	Medium
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
Silicone-free	Yes (following PV 3.10.7, status 1992)
PTFE-free	Yes
UL/CSA AWM	Style 20940 (core insulation style 11323), 600 V, 80 °C; cURus file E310776; UL-verified (certificate V293650)
NFPA	Following NFPA 79-2018, chapter 12.9
Lead-free / REACH	RoHS-II/RoHS-III (2011/65/EC); REACH (EC) No 1907/2006
CE / other markings	CE following 2014/35/EU; EAC; UKCA

Dimensions, Weights & Ratings — FC-ECH890 iguPUR

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.5 mm²				

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
2×0.5	FC-ECH890-001	5.0	11	30
3G0.5	FC-ECH890-002	5.5	16	34
4G0.5	FC-ECH890-003	6.0	21	44
5G0.5	FC-ECH890-004	6.5	26	53
7G0.5	FC-ECH890-005	7.5	37	70
12G0.5	FC-ECH890-006	8.5	63	105
18G0.5	FC-ECH890-007	10.0	94	155
25G0.5	FC-ECH890-008	12.0	128	222
0.75 mm²				
2×0.75	FC-ECH890-009	5.5	16	38
3G0.75	FC-ECH890-010	6.0	24	46
4G0.75	FC-ECH890-011	6.5	32	58
5G0.75	FC-ECH890-012	7.0	40	71
7G0.75	FC-ECH890-013	8.0	56	96
12G0.75	FC-ECH890-014	10.0	94	146
18G0.75	FC-ECH890-015	11.5	140	162
25G0.75	FC-ECH890-016	13.5	194	278
1.0 mm²				
2×1.0	FC-ECH890-017	6.0	21	46
3G1.0	FC-ECH890-018	6.5	32	56
4G1.0	FC-ECH890-019	7.0	42	58
5G1.0	FC-ECH890-020	7.5	52	89
7G1.0	FC-ECH890-021	8.5	73	117
12G1.0	FC-ECH890-022	10.5	124	178
18G1.0	FC-ECH890-023	12.5	186	273
25G1.0	FC-ECH890-024	15.0	258	375
1.5 mm²				
2×1.5	FC-ECH890-025	6.5	32	62
3G1.5	FC-ECH890-026	7.0	47	76
4G1.5	FC-ECH890-027	7.5	63	97
5G1.5	FC-ECH890-028	8.5	78	117
7G1.5	FC-ECH890-029	10.0	109	163
12G1.5	FC-ECH890-030	12.0	186	256
18G1.5	FC-ECH890-031	14.5	279	362
25G1.5	FC-ECH890-032	17.5	387	502
2.5 mm²				
3G2.5	FC-ECH890-033	8.5	78	136
4G2.5	FC-ECH890-034	9.0	103	145
5G2.5	FC-ECH890-035	10.0	129	175
7G2.5	FC-ECH890-036	12.0	181	246

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
12G2.5	FC-ECH890-037	15.0	327	408
25G2.5	FC-ECH890-038	21.5	638	786

FEICHUN CABLE

17 FC-ECH891 iguPUR · C

chainflex CF891 Equivalent

32 variants

Control cable, iguPUR outer jacket, overall shielded, oil-resistant and flame-retardant, for flexing and drag-chain applications

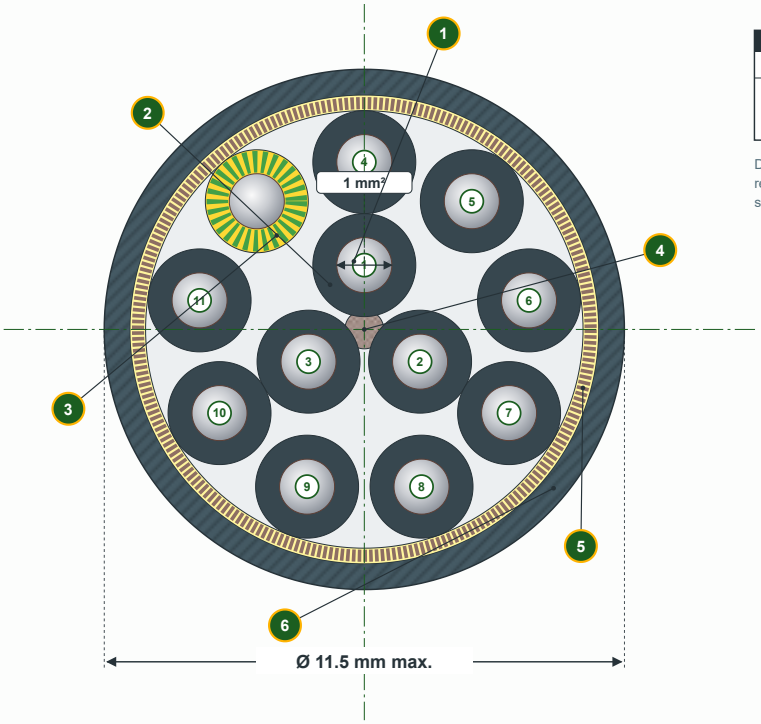
Flexing applications, Class 3; especially for unsupported travels up to 10 m (Class 1); with influence of oil (Class 3); no torsion (Class 1). Indoor and outdoor applications without direct sunlight; machining units, machine tools and low-temperature applications where EMC screening is required.

32 variants
Conductor range 0.5 – 2.5 mm²

300/500 V
Nominal voltage, test 2000 V

12.5 × d
Min. bending radius in the e-chain

iguPUR
Outer jacket, shielded



FEICHUN · SECTION A–A · 300/500 V
FC-ECH891 iguPUR · C
Doc. No. FC-TDS-ECH891-2026-6A70
Ref. (12G1.0)C
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Overall shield	Braid of tinned copper wires, approx. 60 % optical coverage
6	Outer jacket	iguPUR, jet black (similar to RAL 9005), white printing

Construction details

Element	Description
Conductor	Stranded conductor of bare copper wires (following DIN EN 60228)
Core insulation	Mechanically high-quality TPE mixture
Core structure	Cores wound with an optimised pitch length; filling of plastic yarns
Banding	Plastic foil
Overall shield	Braid of tinned copper wires, approx. 60 % optical coverage
Outer jacket	Low-adhesion iguPUR mixture, pressure extruded, adapted to suit the requirements in e-chains

Key technical data

Parameter	Value
Max. conductor resistance at 20 °C / current rating at 30 °C	0.5 mm^2: 39 Ω/km, 10 A; 0.75 mm^2: 26 Ω/km, 14 A; 1 mm^2: 19.5 Ω/km, 17 A; 1.5 mm^2: 13.3 Ω/km, 21 A; 2.5 mm^2: 8 Ω/km, 30 A
Minimum bending radius, e-chain linear	12.5 × d
Minimum bending radius, flexible	10 × d
Minimum bending radius, fixed	7 × d
Temperature, e-chain linear	−20 °C to +80 °C
Temperature, flexible	−40 °C to +80 °C (following DIN EN 60811-504)
Temperature, fixed	−50 °C to +80 °C (following DIN EN 50305)
v max, unsupported	3 m/s
a max	20 m/s^2
Travel distance	Unsupported travels up to 10 m, Class 1
Torsion	No torsion, Class 1

Parameter	Value
Guaranteed service life (min. bending radius × d at 1 / 3 / 5 million double strokes)	−20/−10 °C: 15 / 16 / 17; −10/+70 °C: 12.5 / 13.5 / 14.5; +70/+80 °C: 15 / 16 / 17
Oil resistance	Oil-resistant following DIN EN 50363-10-2, Class 3
UV resistance	Medium
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
Silicone-free	Yes (following PV 3.10.7, status 1992)
PTFE-free	Yes
UL/CSA AWM	Style 20940 (core insulation style 11323), 600 V, 80 °C; cURus file E310776; UL-verified (certificate V293650)
NFPA	Following NFPA 79-2018, chapter 12.9
Lead-free / REACH	RoHS-II/RoHS-III (2011/65/EC); REACH (EC) No 1907/2006
CE / other markings	CE following 2014/35/EU; EAC; UKCA

Dimensions, Weights & Ratings — FC-ECH891 iguPUR · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.5 mm²				
(2×0.5)C	FC-ECH891-001	6.0	18	37
(3G0.5)C	FC-ECH891-002	6.0	28	45
(5G0.5)C	FC-ECH891-003	7.0	41	62
(12G0.5)C	FC-ECH891-004	9.0	91	122
(18G0.5)C	FC-ECH891-005	11.0	136	174
(25G0.5)C	FC-ECH891-006	13.0	210	234
0.75 mm²				
(2×0.75)C	FC-ECH891-007	6.5	30	48
(3G0.75)C	FC-ECH891-008	7.0	37	63
(4G0.75)C	FC-ECH891-009	7.5	46	68
(5G0.75)C	FC-ECH891-010	8.0	61	85
(7G0.75)C	FC-ECH891-011	9.0	83	109
(12G0.75)C	FC-ECH891-012	10.5	124	166
(18G0.75)C	FC-ECH891-013	12.0	183	232
(25G0.75)C	FC-ECH891-014	14.5	222	299
1.0 mm²				
(2×1.0)C	FC-ECH891-015	6.5	30	50
(3G1.0)C	FC-ECH891-016	7.0	46	71
(4G1.0)C	FC-ECH891-017	7.5	63	98
(5G1.0)C	FC-ECH891-018	8.0	76	105
(7G1.0)C	FC-ECH891-019	9.5	100	126
(12G1.0)C	FC-ECH891-020	11.5	167	224
(18G1.0)C	FC-ECH891-021	13.0	213	276
(25G1.0)C	FC-ECH891-022	16.0	291	382
1.5 mm²				
(2×1.5)C	FC-ECH891-023	7.5	60	69
(3G1.5)C	FC-ECH891-024	7.5	63	85
(4G1.5)C	FC-ECH891-025	8.5	90	108
(5G1.5)C	FC-ECH891-026	9.0	94	129
(7G1.5)C	FC-ECH891-027	11.0	153	177
(12G1.5)C	FC-ECH891-028	13.0	212	276
(25G1.5)C	FC-ECH891-029	18.5	425	560
2.5 mm²				
(4G2.5)C	FC-ECH891-030	10.0	141	157
(5G2.5)C	FC-ECH891-031	11.0	149	192
(7G2.5)C	FC-ECH891-032	13.0	204	255

18 FC-ECH-ROBOT2 PUR · C

chainflex CFROBOT2 Equivalent

5 variants

Torsion-resistant control cable, PUR outer jacket, overall shielded, for robots and multi-axis movements

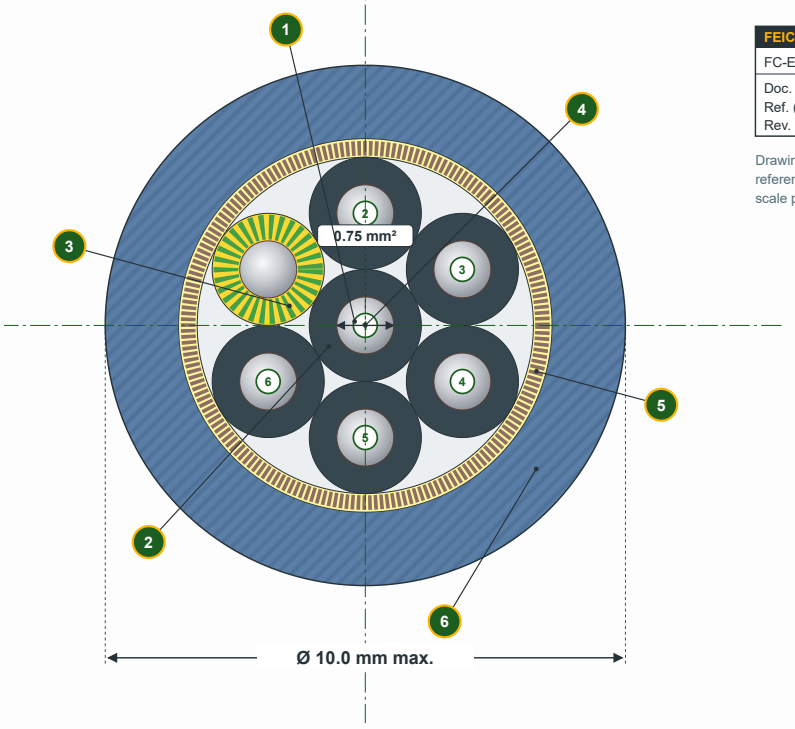
Heavy-duty torsion applications (Class 6), robots and multi-axis movements (Class 1), oil and coolant exposure (Class 3), torsion ±180° per metre (Class 3). Handling and lead-screw drives; indoor and outdoor use (UV-resistant). PVC- and halogen-free, notch-, hydrolysis- and microbe-resistant.

5 variants
Conductor range 0.75 mm²

300/500 V
Nominal voltage, test 2000 V

PUR
Outer jacket

PUR
Outer jacket, shielded



FEICHUN · SECTION A–A · 300/500 V

FC-ECH-ROBOT2 PUR · C

Doc. No. FC-TDS-ECHROBOT2-2026-9F84
Ref. (7G0.75)C
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Overall shield	Extremely torsion-resistant tinned copper wound (spiral) shield, approx. 85 % optical coverage
6	Outer jacket	PUR, halogen-free, steel blue (similar to RAL 5011), white printing

Construction details

Element	Description
Conductor	Fine-wire stranded conductor of bare copper wires in especially bending-resistant version (following DIN EN 60228)
Core insulation	Mechanically high-quality TPE mixture
Core structure	4, 5 and 7 cores stranded; 12 and 18 cores in bundles (4×3, 6×3) with optimised pitch; tensile-resistant centre element; filling of plastic yarns
Banding	Plastic fleece
Overall shield	Extremely torsion-resistant tinned copper wound (spiral) shield, approx. 85 % optical coverage
Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant PUR mixture, pressure extruded, adapted to suit the requirements in e-chains (following DIN EN 50363-10-2)

Key technical data

Parameter	Value
Max. conductor resistance at 20 °C / current rating at 30 °C	0.75 mm^2: 27.0 Ω/km, 14 A
Minimum bending radius, flexible / twisted	10 × d
Minimum bending radius, fixed	5 × d
Temperature, flexible / twisted	−25 °C to +80 °C
Temperature, fixed	−50 °C to +80 °C (following DIN EN 50305)
v max, twisted	180 °/s
a max, twisted	60 °/s^2
Travel distance	Robots and multi-axis movements, Class 1
Torsion	±180° with 1 m cable length, Class 3
Guaranteed service life (torsion at 5 / 7.5 / 10 million cycles)	−25/−15 °C: ±150 / ±90 / ±30 °/m; −15/+70 °C: ±180 / ±120 / ±60 °/m; +70/+80 °C: ±150 / ±90 / ±30 °/m

Parameter	Value
UV resistance	High
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
Halogen-free	Following DIN EN 60754; PVC-free
Other resistances	Notch-, hydrolysis- and microbe-resistant
Silicone-free	Yes (following PV 3.10.7, status 1992)
PTFE-free	Yes
Cleanroom	ISO Class 1 (outer jacket material tested by IPA following DIN EN ISO 14644-1)
UL/CSA AWM	Style 20317 (core insulation style 10493), 300 V, 80 °C, 0.75 mm^2, 4–18 cores; UL-verified (certificate V293650)
NFPA	Following NFPA 79-2018, chapter 12.9
Lead-free / REACH	RoHS-II/RoHS-III (2011/65/EC); REACH (EC) No 1907/2006
CE	Following 2014/35/EU

Parameter	Value
Oil resistance	Oil- and coolant-resistant following DIN EN 50363-10-2, Class 3

Dimensions, Weights & Ratings — FC-ECH-ROBOT2 PUR · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.75 mm²				
(4G0.75)C	FC-ECHROBOT2-001	8.0	43	78
(5G0.75)C	FC-ECHROBOT2-002	8.5	51	90
(7G0.75)C	FC-ECHROBOT2-003	10.0	71	120
(12G0.75)C	FC-ECHROBOT2-004	14.0	122	214
(18G0.75)C	FC-ECHROBOT2-005	16.5	185	301

FEICHUN CABLE

19 FC-ECH-ROBOT9 PUR · C

chainflex CFROBOT9 Equivalent

2 variants

Torsion-resistant hybrid control/data cable, PUR outer jacket, shielded pairs, for robots and multi-axis movements

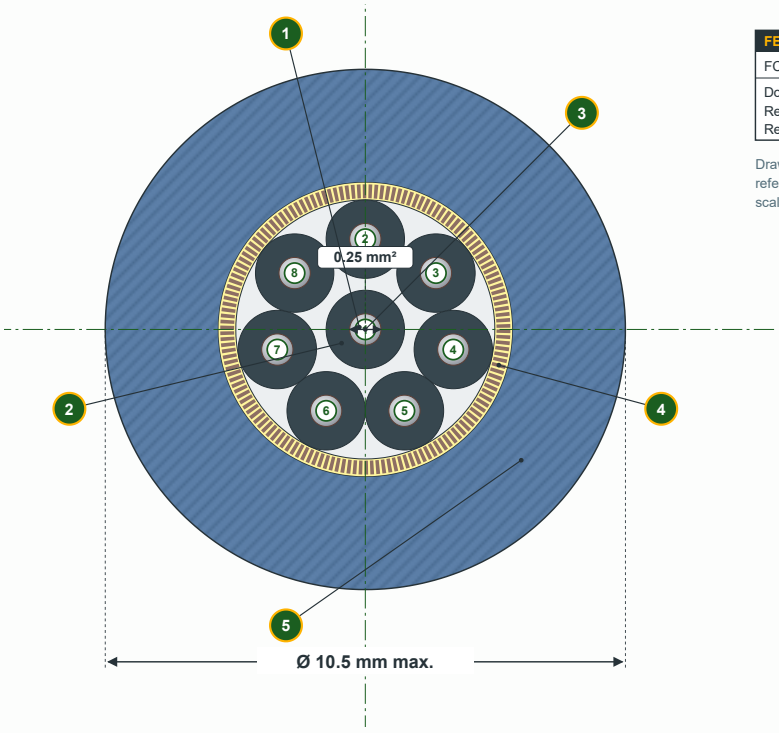
Heavy-duty torsion applications (Class 6), robots and multi-axis movements (Class 1), oil and coolant exposure (Class 3), torsion ±180° per metre (Class 3). Handling and lead-screw drives; indoor and outdoor use (UV-resistant). Variants combine individually shielded signal pairs with a CAN-bus element. PVC- and halogen-free, notch-, hydrolysis- and microbe-resistant.

2 variants
Conductor range 0.25 mm²

300/500 V
Nominal voltage, test 2000 V

PUR
Outer jacket

PUR
Outer jacket, shielded



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
4	Overall shield	Extremely torsion-resistant tinned copper wound shield, approx. 85 % optical coverage
5	Outer jacket	PUR, halogen-free, steel blue (similar to RAL 5011), white printing

Construction details

Element	Description
Conductor	Fine-wire stranded conductor of bare copper wires in especially bending-resistant version (following DIN EN 60228)
Core insulation	Mechanically high-quality TPE mixture
Core structure	Pairs and quad elements, each banded with plastic fleece and individually shielded; tensile- and torsion-resistant centre element; filling of plastic yarns
Element shield	Extremely torsion-resistant tinned copper wound shield, approx. 85 % optical coverage
Overall banding	Plastic fleece over a plastic tape
Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant PUR mixture, pressure extruded, adapted to suit the requirements in e-chains (following DIN EN 50363-10-2)

Key technical data

Parameter	Value
Max. conductor resistance at 20 °C / current rating at 30 °C	0.25 mm^2: 81.0 Ω/km, 5 A; 1 mm^2: 20.0 Ω/km, 17 A (following DIN VDE 0298-4)
Minimum bending radius, flexible / twisted	10 × d
Minimum bending radius, fixed	5 × d
Temperature, flexible / twisted	−25 °C to +80 °C
Temperature, fixed	−50 °C to +80 °C (following DIN EN 50305)
v max, twisted	180 °/s
a max, twisted	60 °/s^2
Travel distance	Robots and multi-axis movements, Class 1
Torsion	±180° with 1 m cable length, Class 3
Guaranteed service life (torsion at 5 / 7.5 / 10 million cycles)	−25/−15 °C: ±150 / ±90 / ±30 °/m; −15/+70 °C: ±180 / ±120 / ±60 °/m; +70/+80 °C: ±150 / ±90 / ±30 °/m

Parameter	Value
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
Halogen-free	Following DIN EN 60754; PVC-free
Other resistances	Notch-, hydrolysis- and microbe-resistant
Silicone-free	Yes (following PV 3.10.7, status 1992)
PTFE-free	Yes
Cleanroom	ISO Class 1 (outer jacket material tested by IPA following DIN EN ISO 14644-1)
UL/CSA AWM	Style 20317 (core insulation style 10493), 300 V, 80 °C; cULus file E310776; UL-verified (certificate V293650)
NFPA	Following NFPA 79-2018, chapter 12.9
Lead-free / REACH	RoHS-II/RoHS-III (2011/65/EC); REACH (EC) No 1907/2006
CE	Following 2014/35/EU
Other markings	EAC

Parameter	Value
Oil resistance	Oil- and coolant-resistant following DIN EN 50363-10-2, Class 3
UV resistance	High

Dimensions, Weights & Ratings — FC-ECH-ROBOT9 PUR · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
(15×(2×0.25)C+(4×0.25)C)C	FC-ECHROBOT9-001	18.5	229	369
(4×(2×0.25)C)C	FC-ECHROBOT9-002	10.5	63	116

FEICHUN CABLE

20 FC-ECH-SOFT1 PVC

chainflex CFSOFT1 Equivalent

4 variants

Extra-soft control cable, oil-resistant PVC outer jacket, unshielded, for short, very fast drag-chain strokes with tight radii

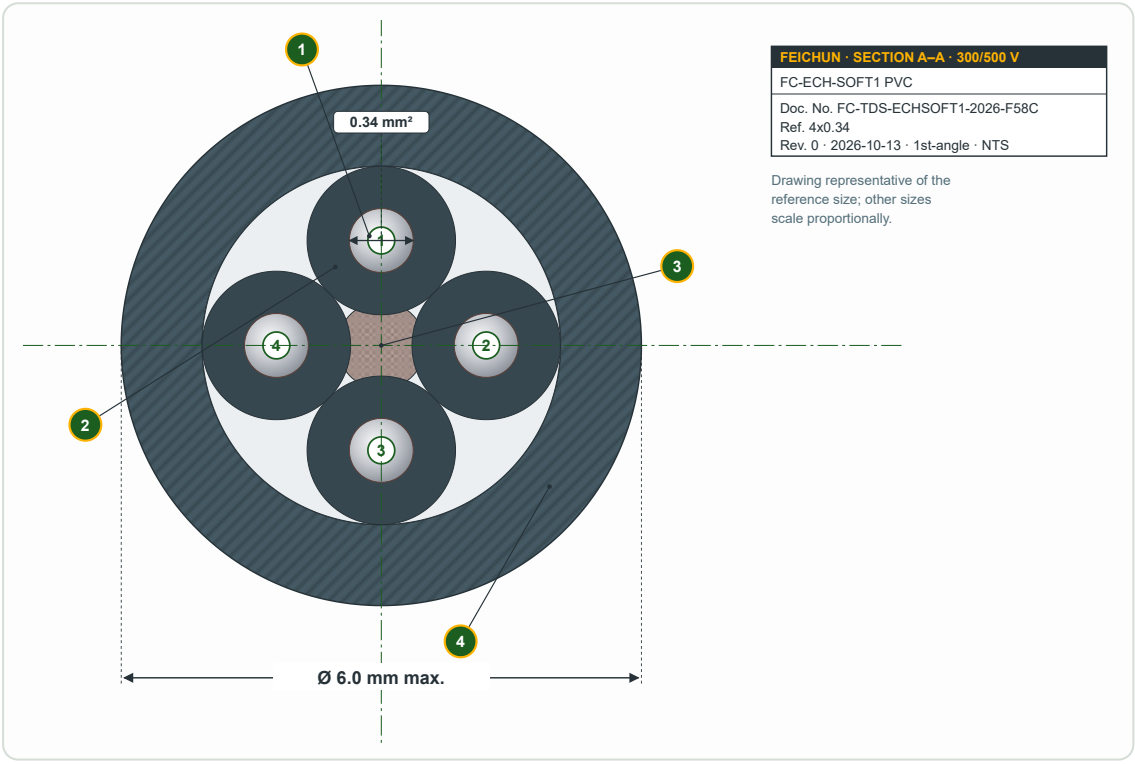
Heavy-duty drag-chain service with small bending radii down to 5 x d; short, very fast travels in restricted installation space (travel class 1); light oil exposure; no torsion. The especially soft design reduces push/pull forces — typical uses are pick-and-place machines, automatic doors, cleanroom equipment and very fast handling units. Indoor use.

4 variants
Conductor range 0.25 – 0.5 mm²

300/500 V
Nominal voltage, test 2000 V

PVC
Outer jacket

PVC
Outer jacket



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE
3	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
4	Outer jacket	Oil-resistant PVC, jet black (similar to RAL 9005), white print

Construction details

Element	Description
Conductor	Very finely stranded, soft, bending-resistant bare copper wires

Element	Description
Core insulation	Mechanically high-quality TPE
Core structure	Cores wound in one layer with very short pitch around a tensile-stress-resistant centre element
Outer jacket	Pressure-extruded, oil-resistant PVC compound adapted for e-chains, jet black

Key technical data

Parameter	Value
Nominal voltage	300/500 V (DIN VDE 0298-3); 300 V (UL)
Test voltage	2000 V (DIN EN 50395)
Bending radius, e-chain linear	min. 5 x d
Bending radius, flexible	min. 4 x d
Bending radius, fixed	min. 3 x d
Temperature, e-chain linear	+5 °C to +70 °C
Temperature, flexible	-5 °C to +70 °C
Temperature, fixed	-15 °C to +70 °C
v max	10 m/s unsupported; 5 m/s gliding
a max	80 m/s²

Parameter	Value
Travel distance	Short, very fast strokes (class 1)
Torsion	Not suitable (class 1)
Guaranteed service life	R min 5/6/7 x d for 10/15/20 million double strokes at +15 to +60 °C (6.8/7.5/8.5 x d at +5 to +15 °C and +60 to +70 °C)
Oil resistance	Oil-resistant to DIN EN 50363-4-1 (class 2)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
UV resistance	Medium
Halogen-free	No (PVC jacket)
Cleanroom	ISO Class 2 (outer jacket tested by IPA to DIN EN ISO 14644-1)
Other	Silicone-free, PTFE-free, lead-free (RoHS-II/III), REACH-compliant
Approvals	UL/CSA AWM (style 10493 core / 2464 jacket, 300 V, 80 °C), NFPA 79-2018 ch. 12.9, CE (2014/35/EU)

Dimensions, Weights & Ratings — FC-ECH-SOFT1 PVC

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.25 mm²				
3×0.25	FC-ECHSOFT1-001	5.5	9	28
8×0.25	FC-ECHSOFT1-002	7.0	21	62
0.34 mm²				
4×0.34	FC-ECHSOFT1-003	6.0	15	39
0.5 mm²				

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
4×0.5	FC-ECHSOFT1-004	7.0	21	52

FEICHUN CABLE

21 FC-ECH-SOFT2 PVC · C

chainflex CFSOFT2 Equivalent

4 variants

Extra-soft control cable, oil-resistant PVC outer jacket, shielded, for short, very fast drag-chain strokes with tight radii

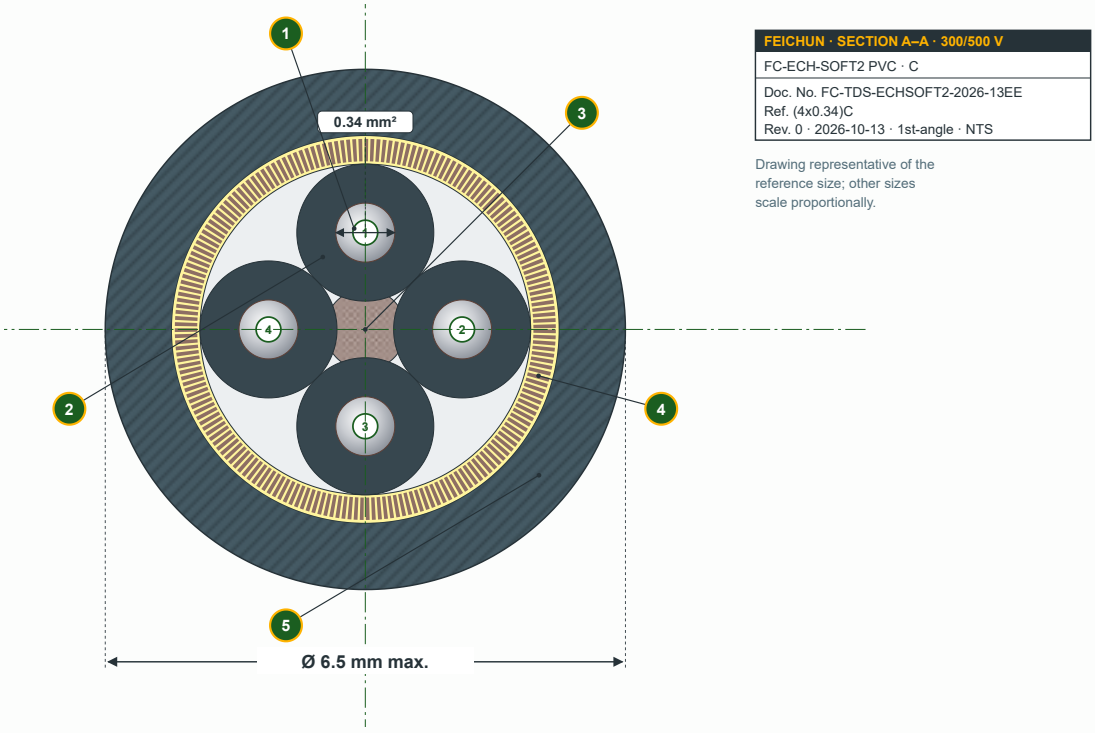
Shielded version of CFSOFT1 for heavy-duty drag-chain service with small bending radii down to 5 x d; short, very fast travels in restricted installation space (class 1); light oil exposure; no torsion. The especially soft design reduces forces — pick-and-place machines, automatic doors, cleanroom equipment and very fast handling. Indoor use.

4 variants
Conductor range 0.25 – 0.5 mm²

300/500 V
Nominal voltage, test 2000 V

PVC
Outer jacket

PVC
Outer jacket, shielded



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE
3	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
4	Overall shield	Extremely bending-resistant braid of tinned copper wires; approx. 70 % linear, 90 % optical coverage
5	Outer jacket	Oil-resistant, low-adhesion PVC, jet black (similar to RAL 9005), white print

Construction details

Element	Description
Conductor	Very finely stranded, soft, bending-resistant bare copper wires
Core insulation	Mechanically high-quality TPE
Core structure	Cores wound in one layer with especially short pitch around a tensile-stress-resistant centre element
Overall banding	Plastic fleece
Overall shield	Extremely bending-resistant braid of tinned copper wires; approx. 70 % linear, 90 % optical coverage
Outer jacket	Pressure-extruded, oil-resistant PVC compound, jet black

Key technical data

Parameter	Value
Nominal voltage	300/500 V (DIN VDE 0298-3); 300 V (UL)
Test voltage	2000 V (DIN EN 50395)
Bending radius, e-chain linear	min. 5 x d
Bending radius, flexible	min. 4 x d
Bending radius, fixed	min. 3 x d
Temperature, e-chain linear	+5 °C to +70 °C
Temperature, flexible	-5 °C to +70 °C (DIN EN 60811-504)
Temperature, fixed	-15 °C to +70 °C (DIN EN 50305)
v max	10 m/s unsupported; 5 m/s gliding
a max	80 m/s²

Parameter	Value
Travel distance	Short, very fast strokes (class 1)
Torsion	Not suitable (class 1)
Guaranteed service life	R min 5/6/7 x d for 10/15/20 million double strokes at +15 to +60 °C (6.8/7.5/8.5 x d at +5 to +15 °C and +60 to +70 °C)
Oil resistance	Oil-resistant to DIN EN 50363-4-1 (class 2)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
UV resistance	Medium
Halogen-free	No (PVC jacket)
Cleanroom	ISO Class 2 (outer jacket tested by IPA to DIN EN ISO 14644-1)
Other	Silicone-free, PTFE-free, lead-free (RoHS-II/III), REACH-compliant
Approvals	UL/CSA AWM (style 10493 core / 2464 jacket, 300 V, 80 °C), NFPA 79-2018 ch. 12.9, CE (2014/35/EU)

Dimensions, Weights & Ratings — FC-ECH-SOFT2 PVC · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.25 mm²				
(3×0.25)C	FC-ECHSOFT2-001	6.0	17	41
(8×0.25)C	FC-ECHSOFT2-002	7.5	38	86
0.34 mm²				
(4×0.34)C	FC-ECHSOFT2-003	6.5	24	50
0.5 mm²				
(4×0.5)C	FC-ECHSOFT2-004	7.5	36	80

FEICHUN CABLE

22 FC-ECH9 TPE

chainflex CF9 Equivalent

55 variants

Control cable, halogen-free TPE outer jacket, unshielded, for heavy-duty drag chains and long gliding travels

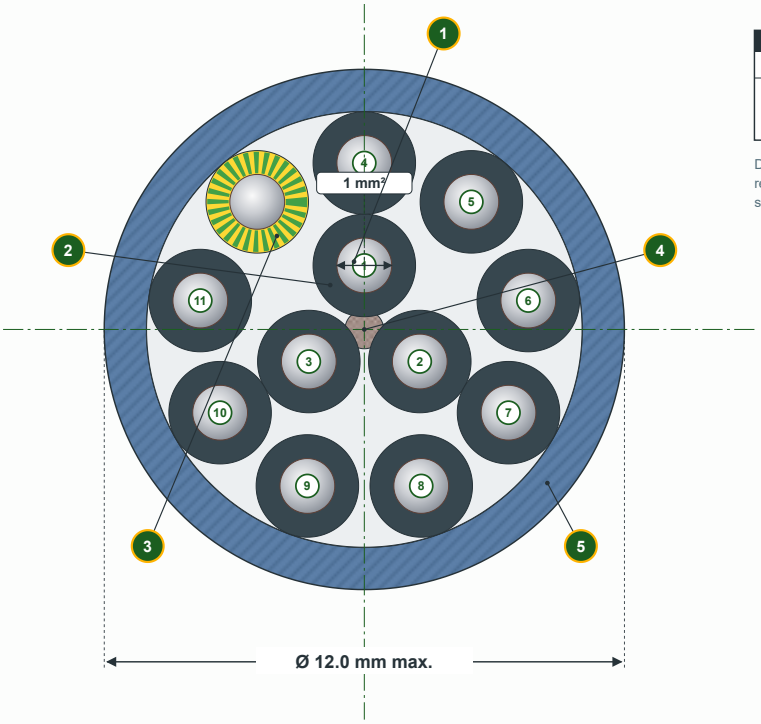
Heavy-duty drag-chain service (class 7), unsupported travels and gliding travels up to 400 m and more (class 6), oil and bio-oil exposure (class 4), torsion ±90°/m (class 2). Indoor and outdoor use, UV-resistant, low-temperature flexible. Typical uses: storage and retrieval units for high-bay warehouses, machining units and machine tools, quick handling, cleanroom and semiconductor insertion, outdoor cranes, low-temperature applications.

55 variants
Conductor range 0.25 – 16 mm²

300/500 V
Nominal voltage, test 2000 V

TPE
Outer jacket

TPE
Outer jacket



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Outer jacket	TPE, steel blue (similar to RAL 5011), white print

Construction details

Element	Description
Conductor	Especially bending-resistant stranded bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality TPE
Core structure	< 12 cores: wound in one layer with short pitch; ≥ 12 cores: bundles wound around a high-tensile centre element with optimised short pitch lengths and directions (low-torsion design)
Outer jacket	Pressure-extruded, gusset-filling, low-adhesion, abrasion-resistant, halogen-free TPE, steel blue; CFRIP tear strip

Key technical data

Parameter	Value
Nominal voltage	300/500 V (DIN VDE 0298-3); 18G2.5: 600/1000 V; UL: 300 V (< 0.5 mm^2), 1000 V (≥ 0.5 mm^2)
Test voltage	2000 V (DIN EN 50395)
Bending radius, e-chain linear	min. 5 x d
Bending radius, flexible	min. 4 x d
Bending radius, fixed	min. 3 x d
Temperature, e-chain linear	-35 °C to +100 °C
Temperature, flexible	-50 °C to +100 °C
Temperature, fixed	-55 °C to +100 °C
v max	10 m/s unsupported; 6 m/s gliding
a max	100 m/s^2

Parameter	Value
Travel distance	Unsupported travels and up to 400 m gliding (class 6)
Torsion	±90° with 1 m cable length (class 2)
Guaranteed service life	R min 5/6/7 x d for 5/7.5/12.5 million double strokes at -25 to +90 °C (6.8/7.5/8.5 x d at -35 to −25 °C and +90 to +100 °C); 7G1.5 and 7G2.5: R min 17.5 x d for gliding travel ≥ 5 m
Oil resistance	Oil-resistant to DIN EN 60811-404; bio-oil-resistant to VDMA 24568 (class 4)
Flame retardance	Not stated in datasheet
UV resistance	High
Halogen-free	Yes, DIN EN 60754 (PVC-free)
Cleanroom	ISO Class 1 (tested by IPA to DIN EN ISO 14644-1); dry cleanroom tested
Other	Hydrolysis- and microbe-resistant, silicone-free, PTFE-free, lead-free (RoHS-II/III), REACH-compliant
Approvals	UL AWM (core style 11884/11886, jacket 22357/22351, 90 °C), CE (2014/35/EU)

Dimensions, Weights & Ratings — FC-ECH9 TPE

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.25 mm²				
2×0.25	FC-ECH9-001	4.5	5	18
3×0.25	FC-ECH9-002	5.0	8	22
6×0.25	FC-ECH9-003	5.5	15	36
7×0.25	FC-ECH9-004	6.5	18	43
8×0.25	FC-ECH9-005	6.5	20	49
12×0.25	FC-ECH9-006	8.0	30	71
18×0.25	FC-ECH9-007	9.0	45	100
20×0.25	FC-ECH9-008	9.5	50	113
25×0.25	FC-ECH9-009	10.5	63	138
0.34 mm²				
4×0.34	FC-ECH9-010	5.0	14	31
5×0.34	FC-ECH9-011	5.5	17	36
6×0.34	FC-ECH9-012	6.0	21	43
8×0.34	FC-ECH9-013	7.0	28	57
16×0.34+3×0.75	FC-ECH9-014	11.0	77	152
0.5 mm²				
2×0.5	FC-ECH9-015	5.0	10	28
3×0.5	FC-ECH9-016	5.5	15	34
4×0.5	FC-ECH9-017	6.0	20	41
5×0.5	FC-ECH9-018	6.5	25	50
7×0.5	FC-ECH9-019	7.5	35	69
12×0.5	FC-ECH9-020	10.0	60	123
18×0.5	FC-ECH9-021	11.5	90	179
25×0.5	FC-ECH9-022	13.5	124	240
36×0.5	FC-ECH9-023	16.5	178	345
0.75 mm²				
4G0.75	FC-ECH9-024	6.5	30	56
5G0.75	FC-ECH9-025	7.0	38	69
7G0.75	FC-ECH9-026	8.0	53	94
12G0.75	FC-ECH9-027	11.0	90	176
20G0.75	FC-ECH9-028	13.5	149	270
25G0.75	FC-ECH9-029	15.0	186	330
1.0 mm²				
3G1.0	FC-ECH9-030	6.0	30	54
4G1.0	FC-ECH9-031	6.5	40	68
5G1.0	FC-ECH9-032	7.5	50	84
12G1.0	FC-ECH9-033	12.0	120	212
18G1.0	FC-ECH9-034	14.0	179	303

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
25G1.0	FC-ECH9-035	16.5	248	417
1.5 mm²				
2×1.5	FC-ECH9-036	6.5	30	55
4G1.5	FC-ECH9-037	7.5	60	90
5G1.5	FC-ECH9-038	8.0	75	111
7G1.5	FC-ECH9-039	9.5	104	159
12G1.5	FC-ECH9-040	13.0	178	280
18G1.5	FC-ECH9-041	16.0	267	412
25G1.5	FC-ECH9-042	19.0	371	585
36G1.5	FC-ECH9-043	22.5	534	816
2.5 mm²				
4G2.5	FC-ECH9-044	9.0	100	144
5G2.5	FC-ECH9-045	9.5	124	176
7G2.5	FC-ECH9-046	12.0	174	253
12G2.5	FC-ECH9-047	17.0	297	465
16G2.5	FC-ECH9-048	19.0	396	616
18G2.5	FC-ECH9-049	22.5	445	795
25G2.5	FC-ECH9-050	23.0	612	926
4.0 mm²				
4G4.0	FC-ECH9-051	10.5	159	212
6.0 mm²				
4G6.0	FC-ECH9-052	12.0	238	308
5G6.0	FC-ECH9-053	13.0	297	378
10 mm²				
4G10	FC-ECH9-054	16.5	396	550
16 mm²				
4G16	FC-ECH9-055	20.5	633	843

23 FC-ECH9.UL TPE

chainflex CF9.UL Equivalent

39 variants

Control cable, flame-retardant TPE outer jacket, unshielded, UL/CSA AWM, for heavy-duty drag chains and long gliding travels

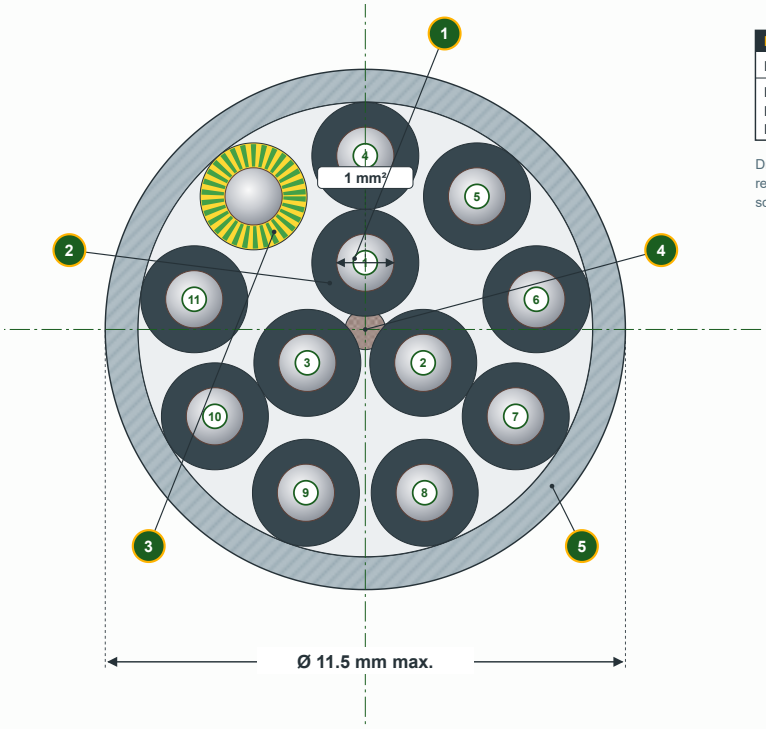
Heavy-duty drag-chain service with unsupported travels and gliding travels up to 400 m and more (class 6), oil and bio-oil exposure (class 4), torsion ±90°/m (class 2). Indoor and outdoor use, UV-resistant, flame-retardant with UL/CSA AWM and NFPA 79 approval for North American machinery. Typical uses: high-bay storage and retrieval units, machining units and machine tools, quick handling, cleanroom and semiconductor insertion, ship-to-shore and outdoor cranes, low-temperature applications.

39 variants
Conductor range 0.25 – 4 mm²

300/500 V
Nominal voltage, test 2000 V

TPE
Outer jacket

TPE
Outer jacket



FEICHUN · SECTION A–A · 300/500 V
FC-ECH9.UL TPE
Doc. No. FC-TDS-ECH9UL-2026-29B1
Ref. 12G1.0
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Outer jacket	Flame-retardant TPE, slate grey (similar to RAL 7015), white print

Construction details

Element	Description
Conductor	Especially bending-resistant stranded bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality TPE
Core structure	< 12 cores: wound in one layer with short pitch; ≥ 12 cores: bundles wound around a high-tensile centre element with short pitches and alternating directions (low-torsion design)
Outer jacket	Pressure-extruded, gusset-filling, flame-retardant, PVC-free, low-adhesion, abrasion-resistant TPE, slate grey; CFRIP tear strip

Key technical data

Parameter	Value
Nominal voltage	300/500 V (DIN VDE 0298-3); UL: 300 V (< 0.5 mm^2), 1000 V (≥ 0.5 mm^2)
Test voltage	2000 V (DIN EN 50395)
Bending radius, e-chain linear	min. 5 x d
Bending radius, flexible	min. 4 x d
Bending radius, fixed	min. 3 x d
Temperature, e-chain linear	-35 °C to +100 °C
Temperature, flexible	-45 °C to +100 °C
Temperature, fixed	-50 °C to +100 °C
v max	10 m/s unsupported; 6 m/s gliding
a max	100 m/s^2

Parameter	Value
Travel distance	Unsupported travels and up to 400 m gliding (class 6)
Torsion	±90° with 1 m cable length (class 2)
Guaranteed service life	R min 5/6/7 x d for 5/7.5/10 million double strokes at -25 to +90 °C (6.8/7.5/8.5 x d at -35 to −25 °C and +90 to +100 °C); 7G1.5 and 7G2.5: R min 17.5 x d for gliding travel ≥ 5 m
Oil resistance	Oil-resistant to DIN EN 60811-404; bio-oil-resistant to VDMA 24568 (class 4)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2
UV resistance	High
Halogen-free	Not stated (PVC-free; contains DBDPE flame retardant)
Cleanroom	ISO Class 1 (outer jacket tested by IPA)
Other	Hydrolysis- and microbe-resistant, silicone-free, PTFE-free, lead-free (RoHS-II/III)
Approvals	UL/CSA AWM (core style 11884/11886, jacket 22345/22344/22022/22021, 90 °C), NFPA 79-2018 ch. 12.9, DNV type approval, CE (2014/35/EU), EAC, UKCA

Dimensions, Weights & Ratings — FC-ECH9.UL TPE

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.25 mm²				
2×0.25	FC-ECH9UL-001	5.0	5	24
3×0.25	FC-ECH9UL-002	5.0	8	28
4×0.25	FC-ECH9UL-003	5.5	10	32
6×0.25	FC-ECH9UL-004	6.0	15	42
8×0.25	FC-ECH9UL-005	7.0	20	57
12×0.25	FC-ECH9UL-006	7.5	30	81
0.34 mm²				
4×0.34	FC-ECH9UL-007	5.5	14	38
5×0.34	FC-ECH9UL-008	6.0	17	46
6×0.34	FC-ECH9UL-009	6.5	21	51
8×0.34	FC-ECH9UL-010	7.5	28	67
0.5 mm²				
2×0.5	FC-ECH9UL-011	5.5	10	35
3×0.5	FC-ECH9UL-012	6.0	15	42
4×0.5	FC-ECH9UL-013	6.0	20	50
5×0.5	FC-ECH9UL-014	6.5	25	56
7×0.5	FC-ECH9UL-015	7.5	35	79
12×0.5	FC-ECH9UL-016	9.5	60	137
18×0.5	FC-ECH9UL-017	12.0	90	201
0.75 mm²				
5G0.75	FC-ECH9UL-018	7.0	38	77
7G0.75	FC-ECH9UL-019	8.5	53	105
12G0.75	FC-ECH9UL-020	11.0	90	191
25G0.75	FC-ECH9UL-021	15.0	186	366
1.0 mm²				
3G1.0	FC-ECH9UL-022	6.5	30	62
4G1.0	FC-ECH9UL-023	7.0	40	78
12G1.0	FC-ECH9UL-024	11.5	119	228
18G1.0	FC-ECH9UL-025	14.5	178	332
25G1.0	FC-ECH9UL-026	16.0	248	447
1.5 mm²				
4G1.5	FC-ECH9UL-027	8.0	60	102
5G1.5	FC-ECH9UL-028	8.5	75	124
7G1.5	FC-ECH9UL-029	10.0	104	171
12G1.5	FC-ECH9UL-030	13.5	178	309
18G1.5	FC-ECH9UL-031	16.0	267	449
25G1.5	FC-ECH9UL-032	19.0	371	650

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
2.5 mm²				
4G2.5	FC-ECH9UL-033	9.0	100	159
5G2.5	FC-ECH9UL-034	10.0	124	194
7G2.5	FC-ECH9UL-035	12.0	174	270
12G2.5	FC-ECH9UL-036	16.0	297	502
18G2.5	FC-ECH9UL-037	20.0	445	737
25G2.5	FC-ECH9UL-038	23.5	612	1,011
4.0 mm²				
4G4.0	FC-ECH9UL-039	10.5	159	231

FEICHUN CABLE

24 FC-ECH10 TPE · C

chainflex CF10 Equivalent

37 variants

Control cable, halogen-free TPE outer jacket, shielded, for heavy-duty drag chains and long gliding travels

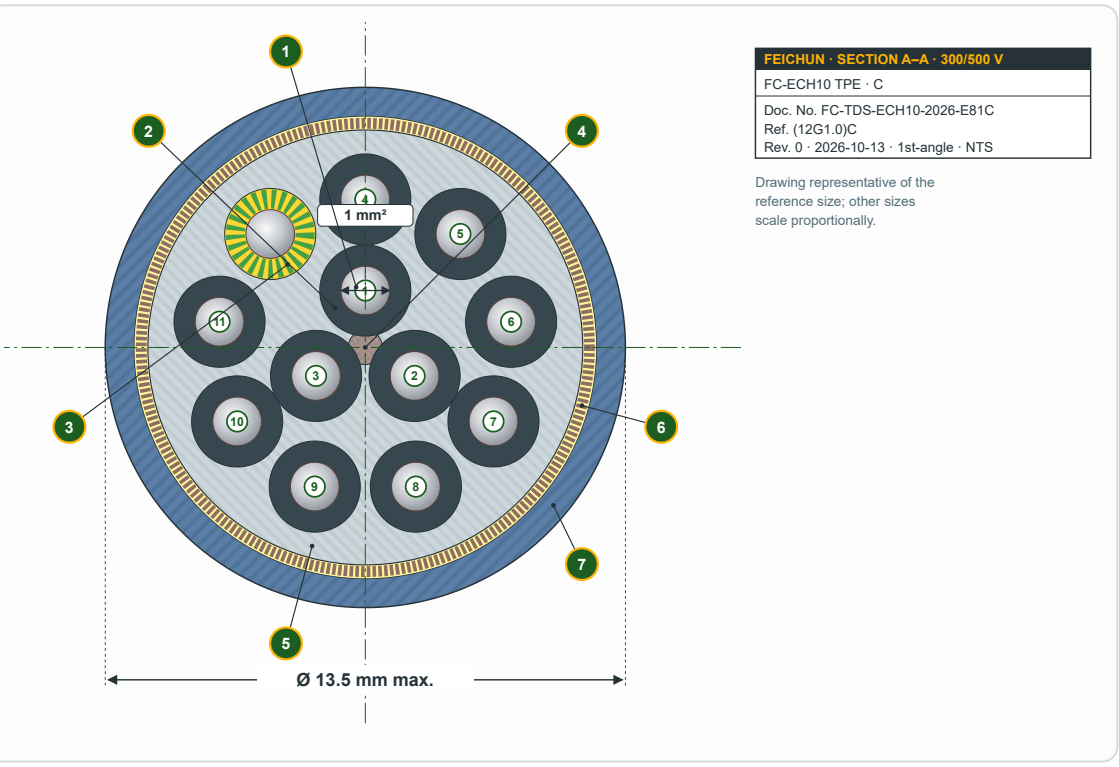
Shielded heavy-duty drag-chain control cable (class 7) for unsupported travels and gliding travels up to 400 m (class 6), oil and bio-oil exposure (class 4), no torsion. Indoor and outdoor use, UV-resistant, low-temperature flexible. Typical uses: high-bay storage and retrieval units, machining units and machine tools, quick handling, cleanroom and semiconductor insertion, ship-to-shore and outdoor cranes, low-temperature applications.

37 variants
Conductor range 0.14 – 4 mm²

300/500 V
Nominal voltage, test 2000 V

TPE
Outer jacket

TPE
Outer jacket, shielded



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Inner jacket	TPE adapted for e-chains; CFRIP tear strip moulded in
6	Overall shield	Bending-resistant braid of tinned copper wires; approx. 70 % linear, 90 % optical coverage
7	Outer jacket	Halogen-free TPE, steel blue (similar to RAL 5011), white print

Construction details

Element	Description
Conductor	Bending-resistant stranded bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality TPE
Core structure	< 12 cores: wound in one layer with short pitch; ≥ 12 cores: bundles wound around a high-tensile centre element with optimised pitch
Inner jacket	TPE adapted for e-chains; CFRIP tear strip moulded in
Overall shield	Bending-resistant braid of tinned copper wires; approx. 70 % linear, 90 % optical coverage
Outer jacket	Low-adhesion, abrasion-resistant, halogen-free TPE, steel blue

Key technical data

Parameter	Value
Nominal voltage	300/500 V (DIN VDE 0298-3); UL: 300 V (< 0.5 mm^2), 1000 V (≥ 0.5 mm^2)
Test voltage	2000 V (DIN EN 50395)
Bending radius, e-chain linear	min. 5 x d
Bending radius, flexible	min. 4 x d
Bending radius, fixed	min. 3 x d
Temperature, e-chain linear	-35 °C to +100 °C
Temperature, flexible	-50 °C to +100 °C
Temperature, fixed	-55 °C to +100 °C
v max	10 m/s unsupported; 6 m/s gliding
a max	100 m/s^2

Parameter	Value
Travel distance	Unsupported travels and up to 400 m gliding (class 6)
Torsion	Not suitable (class 1)
Guaranteed service life	R min 5/6/7 x d for 5/7.5/12.5 million double strokes at -25 to +90 °C (6.8/7.5/8.5 x d at -35 to −25 °C and +90 to +100 °C); 7G1.5 and 7G2.5: R min 17.5 x d for gliding travel ≥ 5 m
Oil resistance	Oil-resistant to DIN EN 60811-404; bio-oil-resistant to VDMA 24568 (class 4)
Flame retardance	Not stated in datasheet
UV resistance	High
Halogen-free	Yes, DIN EN 60754
Cleanroom	ISO Class 1 (outer jacket tested by IPA to DIN EN ISO 14644-1); dry cleanroom tested
Other	Hydrolysis- and microbe-resistant, silicone-free, PTFE-free, lead-free (RoHS-II/III), REACH-compliant
Approvals	UL AWM, CE (2014/35/EU)

Dimensions, Weights & Ratings — FC-ECH10 TPE · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.14 mm²				
(12×0.14)C	FC-ECH10-001	7.5	37	78
(18×0.14)C	FC-ECH10-002	9.5	63	119
0.25 mm²				
(4×0.25)C	FC-ECH10-003	6.5	24	49
(8×0.25)C	FC-ECH10-004	8.0	40	79
(12×0.25)C	FC-ECH10-005	9.5	65	122
(25×0.25)C	FC-ECH10-006	12.0	110	211
0.34 mm²				
(5×0.34)C	FC-ECH10-007	7.0	33	63
0.5 mm²				
(4×0.5)C	FC-ECH10-008	7.0	37	70
(5×0.5)C	FC-ECH10-009	7.5	44	81
(7×0.5)C	FC-ECH10-010	8.5	58	104
(12×0.5)C	FC-ECH10-011	12.0	107	198
(18×0.5)C	FC-ECH10-012	13.5	144	261
(25×0.5)C	FC-ECH10-013	15.0	186	332
0.75 mm²				
(4G0.75)C	FC-ECH10-014	7.5	49	86
(5G0.75)C	FC-ECH10-015	8.0	58	102
(7G0.75)C	FC-ECH10-016	9.5	90	147
(12G0.75)C	FC-ECH10-017	12.5	139	244
(20G0.75)C	FC-ECH10-018	15.5	210	350
(25G0.75)C	FC-ECH10-019	17.0	255	443
1.0 mm²				
(2×1.0)C	FC-ECH10-020	7.5	38	72
(3G1.0)C	FC-ECH10-021	7.5	48	84
(4G1.0)C	FC-ECH10-022	8.0	60	100
(5G1.0)C	FC-ECH10-023	8.5	72	118
(7G1.0)C	FC-ECH10-024	10.0	110	172
(12G1.0)C	FC-ECH10-025	13.5	175	294
(18G1.0)C	FC-ECH10-026	16.0	244	404
(25G1.0)C	FC-ECH10-027	19.0	323	550
1.5 mm²				
(4G1.5)C	FC-ECH10-028	9.0	94	141
(5G1.5)C	FC-ECH10-029	9.5	111	163
(7G1.5)C	FC-ECH10-030	11.5	148	224
(12G1.5)C	FC-ECH10-031	15.0	240	373

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
(18G1.5)C	FC-ECH10-032	18.5	365	568
2.5 mm²				
(4G2.5)C	FC-ECH10-033	11.0	140	209
(7G2.5)C	FC-ECH10-034	13.5	227	335
(12G2.5)C	FC-ECH10-035	19.5	402	636
4.0 mm²				
(4G4.0)C	FC-ECH10-036	12.5	205	287
(5G4.0)C	FC-ECH10-037	13.5	254	351

FEICHUN CABLE

25 FC-ECH10.UL TPE · C

chainflex CF10.UL Equivalent

26 variants

Control cable, flame-retardant TPE outer jacket, shielded, UL/CSA AWM, for heavy-duty drag chains and long gliding travels

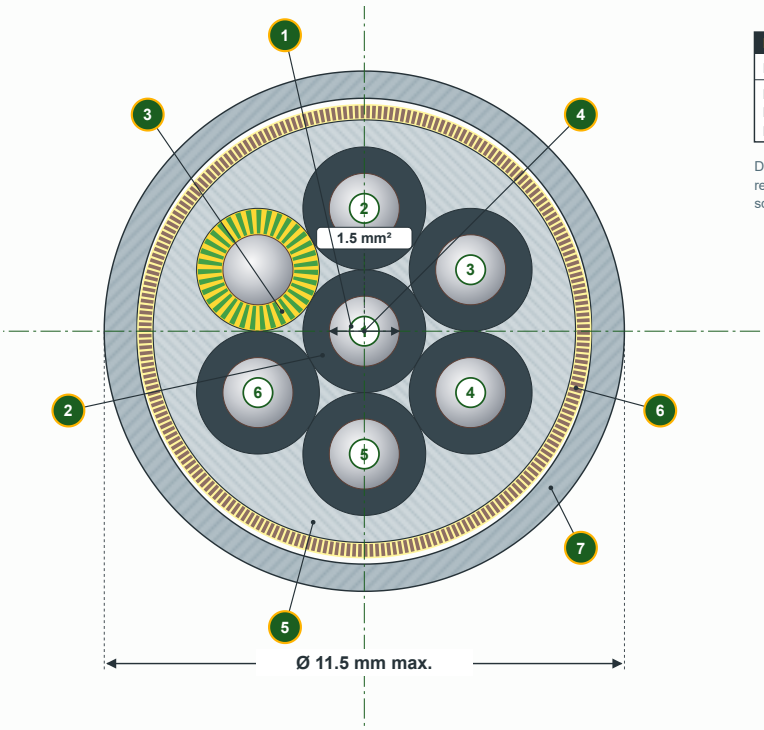
Shielded, flame-retardant control cable for heavy-duty drag chains with unsupported travels and gliding travels up to 400 m and more (class 6), oil and bio-oil exposure (class 4), no torsion. Indoor and outdoor use, UV-resistant, with UL/CSA AWM and NFPA 79 approval for North American machinery. Typical uses: high-bay storage and retrieval units, machining units and machine tools, quick handling, cleanroom and semiconductor insertion, ship-to-shore and outdoor cranes, low-temperature applications.

26 variants
Conductor range 0.25 – 4 mm^2

300/500 V
Nominal voltage, test 2000 V

TPE
Outer jacket

TPE
Outer jacket, shielded



FEICHUN · SECTION A–A · 300/500 V

FC-ECH10.UL TPE · C

Doc. No. FC-TDS-ECH10UL-2026-C72E
Ref. (7G1.5)C
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Inner jacket	Gusset-filling TPE adapted for e-chains; CFRIP tear strip moulded in
6	Overall shield	Extremely bending-resistant braid of tinned copper wires; approx. 70 % linear, 90 % optical coverage
7	Outer jacket	Flame-retardant TPE, slate grey (similar to RAL 7015), white print

Construction details

Element	Description
Conductor	Especially bending-resistant stranded bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality TPE
Core structure	< 12 cores: wound in one layer with short pitch; ≥ 12 cores: bundles wound around a high-tensile centre element with optimised short pitch lengths and directions (low-torsion design)
Inner jacket	Gusset-filling TPE adapted for e-chains; CFRIP tear strip moulded in
Overall shield	Extremely bending-resistant braid of tinned copper wires; approx. 70 % linear, 90 % optical coverage

Element	Description
Outer jacket	Pressure-extruded, flame-retardant, PVC-free, low-adhesion, abrasion-resistant TPE, slate grey

Key technical data

Parameter	Value
Nominal voltage	300/500 V (DIN VDE 0298-3); UL: 300 V (< 0.5 mm²), 1000 V (≥ 0.5 mm²)
Test voltage	2000 V (DIN EN 50395)
Bending radius, e-chain linear	min. 5 x d
Bending radius, flexible	min. 4 x d
Bending radius, fixed	min. 3 x d
Temperature, e-chain linear	-35 °C to +100 °C
Temperature, flexible	-45 °C to +100 °C (DIN EN 60811-504)
Temperature, fixed	-50 °C to +100 °C (DIN EN 50305)
v max	10 m/s unsupported; 6 m/s gliding
a max	100 m/s²

Parameter	Value
Travel distance	Unsupported travels and up to 400 m gliding (class 6)
Torsion	Not suitable (class 1)
Guaranteed service life	R min 5/6/7 x d for 5/7.5/10 million double strokes at -25 to +90 °C (6.8/7.5/8.5 x d at -35 to −25 °C and +90 to +100 °C); 7G1.5 and 7G2.5: R min 17.5 x d for gliding travel ≥ 5 m
Oil resistance	Oil-resistant to DIN EN 60811-404; bio-oil-resistant to VDMA 24568 (class 4)
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2 / horizontal flame
UV resistance	High
Halogen-free	Not stated (PVC-free; contains DBDPE flame retardant)
Cleanroom	ISO Class 1 (outer jacket tested by IPA to DIN EN ISO 14644-1)
Other	Silicone-free, PTFE-free, lead-free (RoHS-II/III), REACH-compliant
Approvals	UL/CSA AWM (core style 11884/11886, jacket 22345/22344/22022/22021, 90 °C), NFPA 79-2018 ch. 12.9, DNV type approval, CE (2014/35/EU), EAC

Dimensions, Weights & Ratings — FC-ECH10.UL TPE · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.25 mm²				
(4×0.25)C	FC-ECH10UL-001	6.5	24	60
(8×0.25)C	FC-ECH10UL-002	8.5	40	94
(12×0.25)C	FC-ECH10UL-003	9.5	64	137
(25×0.25)C	FC-ECH10UL-004	12.5	110	241

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.5 mm²				
(4×0.5)C	FC-ECH10UL-005	7.5	37	83
(5×0.5)C	FC-ECH10UL-006	8.0	44	98
(12×0.5)C	FC-ECH10UL-007	11.5	103	211
(25×0.5)C	FC-ECH10UL-008	15.5	186	383
0.75 mm²				
(4G0.75)C	FC-ECH10UL-009	8.0	49	101
(5G0.75)C	FC-ECH10UL-010	8.5	59	119
(7G0.75)C	FC-ECH10UL-011	10.0	89	171
(12G0.75)C	FC-ECH10UL-012	12.5	135	268
1.0 mm²				
(2×1.0)C	FC-ECH10UL-013	7.5	38	88
(3G1.0)C	FC-ECH10UL-014	8.0	48	99
(4G1.0)C	FC-ECH10UL-015	8.5	61	117
(5G1.0)C	FC-ECH10UL-016	9.0	72	137
(7G1.0)C	FC-ECH10UL-017	11.0	110	204
1.5 mm²				
(4G1.5)C	FC-ECH10UL-018	9.0	83	144
(5G1.5)C	FC-ECH10UL-019	10.0	111	184
(7G1.5)C	FC-ECH10UL-020	11.5	148	250
(12G1.5)C	FC-ECH10UL-021	15.0	240	420
(18G1.5)C	FC-ECH10UL-022	18.5	365	613
2.5 mm²				
(4G2.5)C	FC-ECH10UL-023	11.0	140	232
(7G2.5)C	FC-ECH10UL-024	14.0	226	369
(12G2.5)C	FC-ECH10UL-025	18.5	395	666
4.0 mm²				
(4G4.0)C	FC-ECH10UL-026	12.5	205	315

26 FC-ECH77.UL.D PUR

chainflex CF77.UL.D Equivalent

52 variants

Control cable, unshielded, PUR outer jacket, for heavy-duty drag-chain applications with torsion

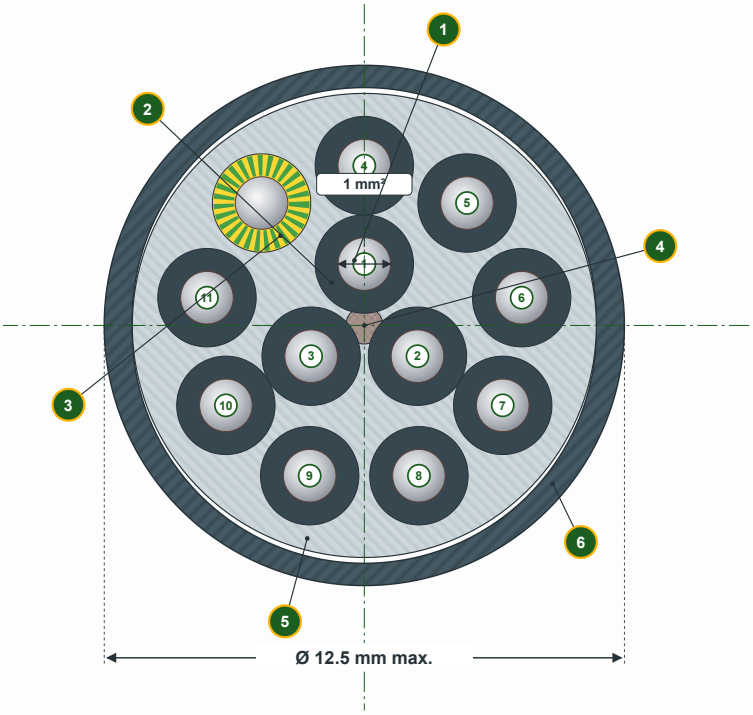
Heavy-duty e-chain applications with unsupported travel and up to 100 m gliding; almost unlimited oil resistance; torsion ±180°/m; indoor and outdoor use with average sun exposure. Typical uses: machine tools and machining units, high-bay storage and retrieval units, packaging, quick-handling systems and refrigeration sector.

52 variants
Conductor range 0.25 – 6 mm²

300/500 V
Nominal voltage, test 2000 V

6.8 × d
Min. bending radius in the e-chain

PUR
Outer jacket



FEICHUN · SECTION A–A · 300/500 V
FC-ECH77.UL.D PUR
Doc. No. FC-TDS-ECH77ULD-2026-5583
Ref. 12G1.0
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Inner jacket	None
6	Outer jacket	PUR, window grey (similar to RAL 7040), black print; INI variants marked in the datasheet in colza yellow (similar to RAL 1021)

Construction details

Element	Description
Conductor	Fine-wire strand of bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality TPE mixture
Core structure	<12 cores: wound in a single layer with short lay length; ≥12 cores: wound in bundles around a high-tensile centre element with short, optimised lay lengths and directions (low-torsion design)
Inner jacket	None
Overall shield	None
Outer jacket	Pressure-extruded, gusset-filling, low-adhesion, halogen-free, highly abrasion-resistant PUR mixture suited to e-chains (DIN EN 50363-10-2)

Key technical data

Parameter	Value
Max. conductor resistance at 20 °C / current at 30 °C	0.25: 79 Ω/km, 5 A; 0.34: 57, 7; 0.5: 39, 10; 0.75: 26, 14; 1.0: 19.5, 17; 1.5: 13.3, 21; 2.5: 8, 30; 4: 4.95, 41; 6: 3.3, 53
Minimum bending radius, e-chain linear	6.8 × d
Minimum bending radius, flexible	5 × d
Minimum bending radius, fixed	4 × d
Temperature, e-chain linear	−25 °C to +80 °C
Temperature, flexible	−40 °C to +80 °C (DIN EN 60811-504)
Temperature, fixed	−50 °C to +80 °C (DIN EN 50305)
v max	10 m/s unsupported; 5 m/s gliding
a max	80 m/s²
Travel distance	Unsupported travel distances and up to 100 m gliding (Class 5)
Torsion	±180°/m cable length (Class 3); ±90°/m for 4G4.0, 5G4.0, 5G6.0

Parameter	Value
Guaranteed service life bending radius, −25 to −15 °C and +70 to +80 °C	8.5/10 × d (5 M); 9.5/11 × d (7.5 M); 10.5/12 × d (10 M)
Oil resistance	Oil-resistant to DIN EN 50363-10-2 (Class 3)
Offshore	MUD-resistant to NEK 606 (status 2016)
UV resistance	Medium
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2/horizontal flame
Halogen-free	Yes, DIN EN 60754
Silicone-free / PTFE-free	Yes (PV 3.10.7, status 1992) / Yes
Cleanroom	ISO Class 1 to DIN EN ISO 14644-1 (outer jacket material tested by IPA)
Approvals / conformity	UL/CSA AWM; UL-verified service life (certificate V293650); NFPA 79-2018 section 12.9; DNV type approval TAE00003X1; REACH; lead-free to RoHS-II/III; CE (2014/35/EU)

Parameter	Value
Guaranteed service life bending radius, −15 °C to +70 °C	6.8/7.5 × d (5 M double strokes, <10 m/≥10 m); 7.5/8.5 × d (7.5 M); 8.5/9.5 × d (10 M)

Parameter	Value
UL/CSA AWM	Core insulation style 10493 (0.25/0.34 mm², 300 V) or 11323 (≥0.5 mm², 1000 V); jacket style 20549, 20940 or 21223; 80 °C
DESINA	To VDW, DESINA standardisation
Footnote 17	7G1.5 and 7G2.5: min. bending radius 17.5 × d for gliding travel ≥5 m

Dimensions, Weights & Ratings — FC-ECH77.UL.D PUR

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.25 mm²				
3×0.25 INI	FC-ECH77ULD-001	5.0	9	29
4×0.25	FC-ECH77ULD-002	5.5	11	35
5×0.25	FC-ECH77ULD-003	6.0	13	39
7×0.25	FC-ECH77ULD-004	6.5	18	51
12×0.25	FC-ECH77ULD-005	9.0	32	78
18×0.25	FC-ECH77ULD-006	10.5	47	127
25×0.25	FC-ECH77ULD-007	11.5	63	155
0.34 mm²				
4×0.34 INI	FC-ECH77ULD-008	6.0	15	36
5×0.34 INI	FC-ECH77ULD-009	6.0	19	44
5×0.34 INI.D	FC-ECH77ULD-010	6.0	19	44
0.5 mm²				
4G0.5	FC-ECH77ULD-011	6.0	21	46
5G0.5	FC-ECH77ULD-012	6.5	26	53
7G0.5	FC-ECH77ULD-013	7.5	39	78
12G0.5	FC-ECH77ULD-014	10.0	63	130
18G0.5	FC-ECH77ULD-015	12.0	94	184
25G0.5	FC-ECH77ULD-016	14.0	129	243
30G0.5	FC-ECH77ULD-017	15.0	155	315
0.75 mm²				
3G0.75	FC-ECH77ULD-018	6.5	23	52
4G0.75	FC-ECH77ULD-019	7.0	31	59
5G0.75	FC-ECH77ULD-020	7.5	38	71
7G0.75	FC-ECH77ULD-021	8.5	54	100
12G0.75	FC-ECH77ULD-022	12.0	91	180
18G0.75	FC-ECH77ULD-023	13.5	134	239
20G0.75	FC-ECH77ULD-024	14.5	149	269
25G0.75	FC-ECH77ULD-025	16.0	186	336

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
36G0.75	FC-ECH77ULD-026	19.0	279	506
42G0.75	FC-ECH77ULD-027	21.0	341	580
1.0 mm²				
2×1.0	FC-ECH77ULD-028	6.5	21	51
3G1.0	FC-ECH77ULD-029	6.5	31	58
4G1.0	FC-ECH77ULD-030	7.0	41	73
5G1.0	FC-ECH77ULD-031	8.0	50	90
7G1.0	FC-ECH77ULD-032	9.0	71	120
12G1.0	FC-ECH77ULD-033	12.5	120	220
18G1.0	FC-ECH77ULD-034	15.0	179	314
25G1.0	FC-ECH77ULD-035	17.5	248	431
42G1.0	FC-ECH77ULD-036	22.5	433	699
1.5 mm²				
3G1.5	FC-ECH77ULD-037	7.0	46	71
4G1.5	FC-ECH77ULD-038	7.5	61	88
5G1.5	FC-ECH77ULD-039	8.0	75	105
7G1.5	FC-ECH77ULD-040	9.5	105	152
12G1.5	FC-ECH77ULD-041	13.0	179	297
18G1.5	FC-ECH77ULD-042	17.0	268	405
25G1.5	FC-ECH77ULD-043	19.5	297	564
36G1.5	FC-ECH77ULD-044	23.5	551	848
2.5 mm²				
3G2.5	FC-ECH77ULD-045	8.5	75	132
4G2.5	FC-ECH77ULD-046	9.5	95	167
5G2.5	FC-ECH77ULD-047	10.0	124	196
7G2.5	FC-ECH77ULD-048	12.0	174	270
12G2.5	FC-ECH77ULD-049	17.0	297	479
4.0 mm²				
4G4.0	FC-ECH77ULD-050	11.5	165	245
5G4.0	FC-ECH77ULD-051	12.0	198	284
6.0 mm²				
5G6.0	FC-ECH77ULD-052	13.5	297	412

27 FC-ECH78.UL PUR · C

chainflex CF78.UL Equivalent

36 variants

Control cable, overall shielded, TPE inner jacket and PUR outer jacket, for heavy-duty drag-chain applications

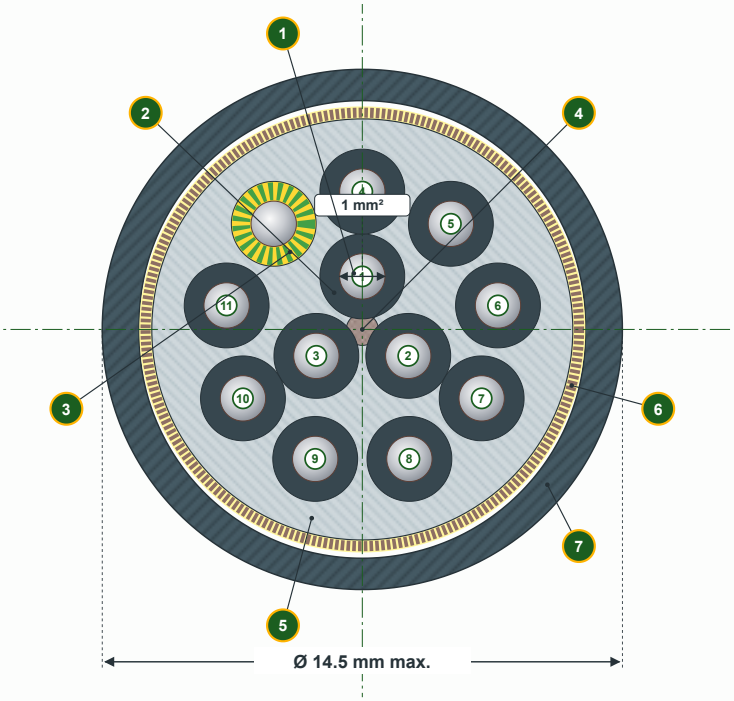
EMC-sensitive heavy-duty control runs in e-chains with unsupported travel and up to 100 m gliding; almost unlimited oil and coolant resistance; no torsion; indoor and outdoor use with average sun exposure. Typical uses: machine tools and machining units, high-bay storage and retrieval units, packaging, quick-handling systems and refrigeration sector.

36 variants
Conductor range 0.5 – 4 mm²

300/500 V
Nominal voltage, test 2000 V

6.8 × d
Min. bending radius in the e-chain

PUR
Outer jacket, shielded



FEICHUN · SECTION A–A · 300/500 V
FC-ECH78.UL PUR · C
Doc. No. FC-TDS-ECH78UL-2026-6D0C
Ref. 12G1.0
Rev. 0 · 2026-10-13 · 1st-angle · NTS

Drawing representative of the reference size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	Mechanically high-quality TPE mixture
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Inner jacket	Pressure-extruded, gusset-filling TPE mixture, with CFRIP tear strip for fast stripping
6	Overall shield	Bending-resistant braid of tinned copper wires; coverage approx. 55 % linear, approx. 80 % optical
7	Outer jacket	PUR, window grey (similar to RAL 7040), black print

Construction details

Element	Description
Conductor	Fine-wire strand of bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality TPE mixture
Core structure	<12 cores: wound in a single layer with short lay length; ≥12 cores: wound in bundles around a high-tensile centre element with short, optimised lay lengths and directions
Inner jacket	Pressure-extruded, gusset-filling TPE mixture, with CFRIP tear strip for fast stripping
Overall shield	Bending-resistant braid of tinned copper wires; coverage approx. 55 % linear, approx. 80 % optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant PUR mixture suited to e-chains (DIN EN 50363-10-2)

Key technical data

Parameter	Value
Max. conductor resistance at 20 °C / current at 30 °C	0.5: 39 Ω/km, 10 A; 0.75: 26, 14; 1.0: 19.5, 17; 1.5: 13.3, 21; 2.5: 8, 30; 4: 4.95, 41
Minimum bending radius, e-chain linear	6.8 × d
Minimum bending radius, flexible	5 × d
Minimum bending radius, fixed	4 × d
Temperature, e-chain linear	−25 °C to +80 °C
Temperature, flexible	−40 °C to +80 °C (DIN EN 60811-504)
Temperature, fixed	−50 °C to +80 °C (DIN EN 50305)
v max	10 m/s unsupported; 5 m/s gliding
a max	80 m/s²
Travel distance	Unsupported travel distances and up to 100 m gliding (Class 5)
Torsion	Not suitable for torsion (Class 1)

Parameter	Value
Guaranteed service life bending radius, −25 to −15 °C and +70 to +80 °C	8.5/10 × d (5 M); 9.5/11 × d (7.5 M); 10.5/12 × d (10 M)
Oil resistance	Oil-resistant to DIN EN 50363-10-2 (Class 3)
Offshore	MUD-resistant to NEK 606 (status 2016)
UV resistance	Medium
Flame retardance	IEC 60332-1-2, VW-1, FT1, FT2/horizontal flame
Halogen-free	Yes, DIN EN 60754
Silicone-free / PTFE-free	Yes (PV 3.10.7, status 1992) / Yes
Cleanroom	ISO Class 1 to DIN EN ISO 14644-1 (outer jacket material tested by IPA)
Approvals / conformity	UL/CSA AWM Style 21223 (VW-1, 80 °C) printed; UL-verified service life (certificate V293650); NFPA 79-2018 section 12.9; DNV type approval TAE00003X1; REACH; lead-free to RoHS-II/III; CE (2014/35/EU); UKCA; EAC

Parameter	Value
Guaranteed service life bending radius, −15 °C to +70 °C	6.8/7.5 × d (5 M double strokes, <10 m/≥10 m); 7.5/8.5 × d (7.5 M); 8.5/9.5 × d (10 M)

Parameter	Value
Other resistances	Coolant-resistant, hydrolysis- and microbe-resistant, notch-resistant
UL/CSA AWM	Core insulation style 11323; jacket style 20940 (≤9 cores) or 21223 (≥12 cores, and all 1.5–4 mm²); 1000 V; 80 °C
Footnote 17	7G1.5 and 7G2.5: min. bending radius 17.5 × d for gliding travel ≥5 m

Dimensions, Weights & Ratings — FC-ECH78.UL PUR · C

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.5 mm²				
4G0.5	FC-ECH78UL-001	8.0	38	77
5G0.5	FC-ECH78UL-002	8.0	45	91
7G0.5	FC-ECH78UL-003	9.5	59	115
9G0.5	FC-ECH78UL-004	11.0	77	143
12G0.5	FC-ECH78UL-005	12.5	92	202
18G0.5	FC-ECH78UL-006	14.5	146	248
25G0.5	FC-ECH78UL-007	16.0	168	354
0.75 mm²				
3G0.75	FC-ECH78UL-008	8.0	42	79
4G0.75	FC-ECH78UL-009	8.5	49	96
5G0.75	FC-ECH78UL-010	9.5	61	112
7G0.75	FC-ECH78UL-011	10.5	83	151
12G0.75	FC-ECH78UL-012	13.5	136	249
18G0.75	FC-ECH78UL-013	15.5	194	354
36G0.75	FC-ECH78UL-014	22.0	390	702
1.0 mm²				
3G1.0	FC-ECH78UL-015	8.5	50	96
4G1.0	FC-ECH78UL-016	9.0	62	112
5G1.0	FC-ECH78UL-017	9.5	74	129
7G1.0	FC-ECH78UL-018	11.0	104	176
12G1.0	FC-ECH78UL-019	14.5	166	300
18G1.0	FC-ECH78UL-020	17.0	240	407
25G1.0	FC-ECH78UL-021	20.0	325	545
1.5 mm²				
3G1.5	FC-ECH78UL-022	9.5	68	122
4G1.5	FC-ECH78UL-023	10.0	86	145
5G1.5	FC-ECH78UL-024	9.5	108	159

Cores × cross-section mm²	FeiChun part no.	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
7G1.5	FC-ECH78UL-025	11.5	144	217
12G1.5	FC-ECH78UL-026	16.0	233	387
18G1.5	FC-ECH78UL-027	19.0	346	541
25G1.5	FC-ECH78UL-028	22.5	464	724
36G1.5	FC-ECH78UL-029	26.5	663	1,095
42G1.5	FC-ECH78UL-030	29.5	820	1,296
2.5 mm²				
3G2.5	FC-ECH78UL-031	10.0	106	174
4G2.5	FC-ECH78UL-032	11.5	140	203
5G2.5	FC-ECH78UL-033	12.0	166	235
7G2.5	FC-ECH78UL-034	14.5	230	334
12G2.5	FC-ECH78UL-035	19.0	382	585
4.0 mm²				
4G4.0	FC-ECH78UL-036	13.0	203	328

FEICHUN CABLE

28 FC-ECH130US PVC

chainflex CF130US Equivalent

31 variants

Control cable, unshielded, PVC outer jacket, UL/CSA tray-cable rated, for low-duty drag-chain applications

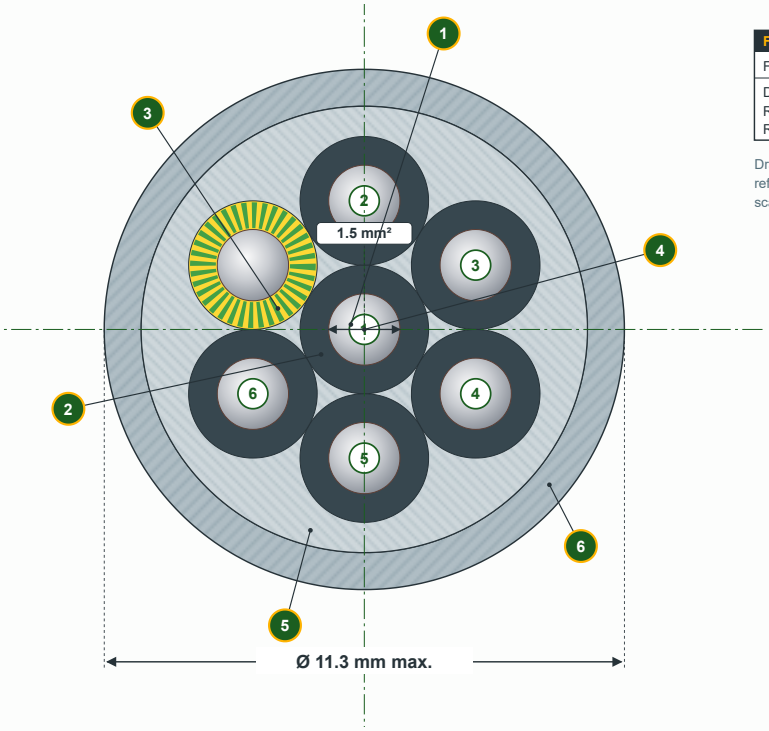
Low-duty e-chain and flexing applications with unsupported travel and low-duty gliding up to 9 m (30 ft); not recommended for long travel or gliding; oil-resistant; indoor and outdoor use. Suited to North American installations requiring tray cable (TC-ER, TC-ER-HL), WTTC or MTW ratings — e.g. machine tools, packaging, handling and adjusting equipment.

31 variants
Conductor range 0.5 – 6 mm²

600 V
Nominal voltage, test 3300 V

8 × d
Min. bending radius in the e-chain

PVC
Outer jacket



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	PVC/nylon
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Inner jacket	None
6	Outer jacket	PVC, grey (similar to RAL 7001), oil- and UV-resistant, low-adhesion blend

Construction details

Element	Description
Conductor	Fine-wire, bundled strand of bare copper wires (ASTM B174-95)
Core insulation	PVC/nylon
Core structure	Cores wound in concentric layers with short pitch
Inner jacket	None
Overall shield	None
Outer jacket	Oil- and UV-resistant, low-adhesion PVC blend, grey (similar to RAL 7001)

Key technical data

Parameter	Value
Minimum bending radius, e-chain linear	8 × d
Minimum bending radius, flexible	7.5 × d
Minimum bending radius, fixed	5 × d
Temperature, e-chain linear	+5 °C to +80 °C (+41 °F to +176 °F)
Temperature, flexible	−5 °C to +80 °C (+23 °F to +176 °F)
Temperature, fixed	−20 °C to +90 °C (−4 °F to +194 °F)
v max	3 m/s (9.84 ft/s) unsupported; 2 m/s (6.56 ft/s) gliding
a max	20 m/s^2 (65.6 ft/s^2)
Travel distance	Unsupported and low-duty gliding up to 9 m (30 ft); not recommended for long travel or gliding
Torsion	±90° with 1 m cable length

Parameter	Value
Guaranteed service life bending radius (1/3/5 M cycles)	+23 to +59 °F: 10/12/13 × d; +59 to +140 °F: 8/10/12 × d; +140 to +176 °F: 10/12/13 × d
Flame retardance	MTW to UL VW-1 and CSA FT4; TC-ER to UL 1685 and CSA FT4
UL rating	AWM 2587, 90 °C, 600 V
UV resistance	Medium
Oil resistance	Oil-resistant to DIN EN 60811-2-1 and DIN EN 50363-4-1 (Class 4)
Silicone-free	Yes
NFPA	NFPA 79 section 12.9
UL/CSA	Suitable for installation per applicable NEC sections; tray cable TC-ER and TC-ER-HL (Class I and II, Division 1 and 2, Zone 1 and 2); direct burial; oil-resistant; WTTC (wind turbine tray cable); MTW; UL AWM 2587, 90 °C, 600 V; cUL CIC-TC FT4; CSA AWM I/II A/B 90 °C 600 V FT4
CE / lead-free	CE to 73/23/EEC and 2014/35/EU; lead-free to 2002/95/EC
Guarantee	5 million cycles guaranteed, up to 36 months

Dimensions, Weights & Ratings — FC-ECH130US PVC

Cores × cross-section mm²	FeiChun part no.	AWG	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.5 mm² (20 AWG)					
2×0.5	FC-ECH130US-001	20 AWG	6.7	10	33
3G0.5	FC-ECH130US-002	20 AWG	7.1	15	52
4G0.5	FC-ECH130US-003	20 AWG	7.9	19	73
5G0.5	FC-ECH130US-004	20 AWG	8.4	24	84
7G0.5	FC-ECH130US-005	20 AWG	9.7	33	108
12G0.5	FC-ECH130US-006	20 AWG	11.9	57	172
18G0.5	FC-ECH130US-007	20 AWG	14.0	86	241
25G0.5	FC-ECH130US-008	20 AWG	16.6	119	321
0.75 mm² (18 AWG)					
4G0.75	FC-ECH130US-009	18 AWG	8.3	30	88
5G0.75	FC-ECH130US-010	18 AWG	8.9	38	102
7G0.75	FC-ECH130US-011	18 AWG	10.2	53	132
12G0.75	FC-ECH130US-012	18 AWG	12.7	90	213
18G0.75	FC-ECH130US-013	18 AWG	14.7	136	302
25G0.75	FC-ECH130US-014	18 AWG	17.5	188	403
1.5 mm² (16 AWG)					
3G1.5	FC-ECH130US-015	16 AWG	8.4	36	89
4G1.5	FC-ECH130US-016	16 AWG	9.0	48	114
5G1.5	FC-ECH130US-017	16 AWG	9.8	60	132
7G1.5	FC-ECH130US-018	16 AWG	11.3	84	192
10G1.5	FC-ECH130US-019	16 AWG	14.2	120	274
12G1.5	FC-ECH130US-020	16 AWG	14.2	143	292
18G1.5	FC-ECH130US-021	16 AWG	16.4	215	421
22G1.5	FC-ECH130US-022	16 AWG	18.0	263	505
25G1.5	FC-ECH130US-023	16 AWG	19.4	298	580
33G1.5	FC-ECH130US-024	16 AWG	21.6	394	828
2.5 mm² (14 AWG)					
4G2.5	FC-ECH130US-025	14 AWG	9.8	77	151
7G2.5	FC-ECH130US-026	14 AWG	13.0	135	254
10G2.5	FC-ECH130US-027	14 AWG	16.0	190	333
12G2.5	FC-ECH130US-028	14 AWG	15.6	232	401
4.0 mm² (12 AWG)					
4G4.0	FC-ECH130US-029	12 AWG	12.4	118	222
6.0 mm² (10 AWG)					
4G6.0	FC-ECH130US-030	10 AWG	14.2	193	327
5G6.0	FC-ECH130US-031	10 AWG	15.5	242	389

29 FC-ECH140US PVC · C

chainflex CF140US Equivalent

30 variants

Control cable, overall shielded, PVC outer jacket, UL/CSA tray-cable rated, for low-duty drag-chain applications

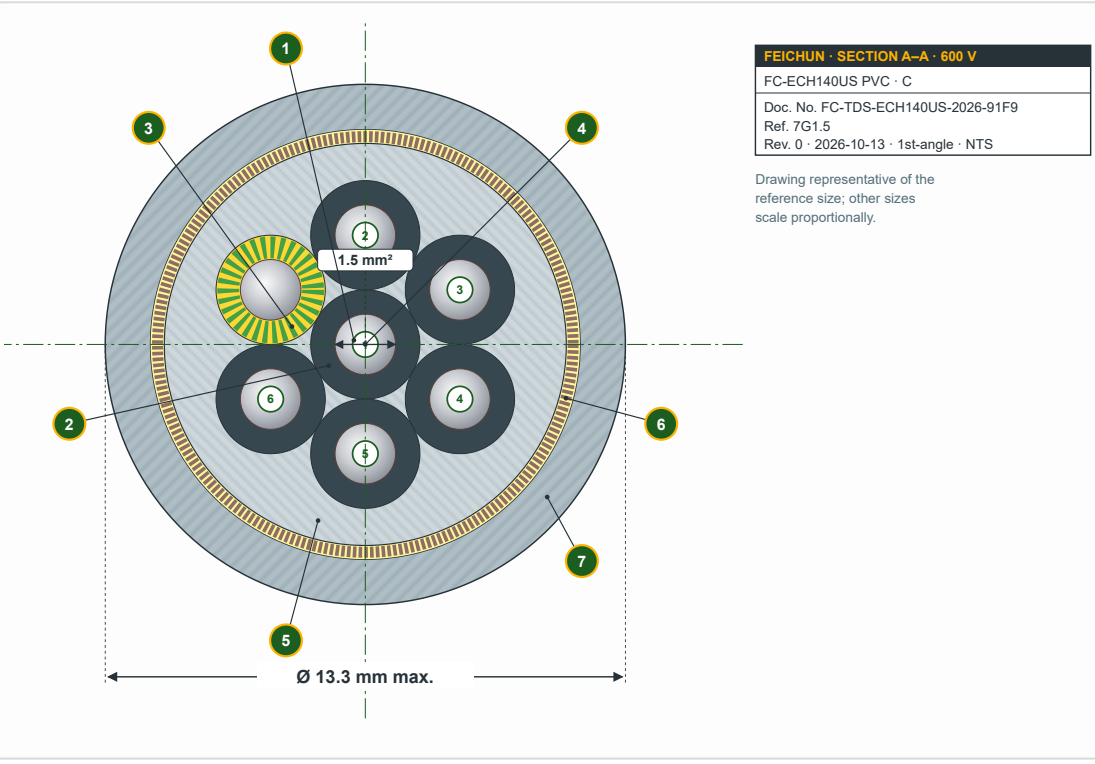
EMC-sensitive low-duty flexing applications, indoor or outdoor, with unsupported travel and low-duty gliding up to 9 m (30 ft); not recommended for long travel or gliding; oil-resistant. Typical uses: wood and stone processing, packaging, supply systems, handling and adjusting equipment, machine tools; North American installations requiring tray cable (TC-ER, TC-ER-HL), WTTC or MTW ratings.

30 variants
Conductor range 0.5 – 6 mm²

600 V
Nominal voltage, test 3300 V

10 × d
Min. bending radius in the e-chain

PVC
Outer jacket, shielded



Pos.	Element	Material
1	Conductor	Fine-wire bare copper conductor, extra-flexible (class 6, IEC 60228)
2	Core insulation	PVC/nylon
3	Earth core	Green-yellow core (G types)
4	Centre filler / strain relief	Filler element with short-pitch lay-up of the cores
5	Inner jacket	Low-adhesion PVC
6	Overall shield	Tinned copper braid, approx. 65 % optical coverage
7	Outer jacket	PVC, grey (similar to RAL 7001), oil- and UV-resistant, low-adhesion blend

Construction details

Element	Description
Conductor	Fine-wire, bundled strand of bare copper wires (ASTM B174-95)
Core insulation	PVC/nylon
Core structure	Cores wound in concentric layers with short lay length
Inner jacket	Low-adhesion PVC
Overall shield	Tinned copper braid, approx. 65 % optical coverage
Outer jacket	Oil- and UV-resistant, low-adhesion PVC blend, grey (similar to RAL 7001)

Key technical data

Parameter	Value
Minimum bending radius, e-chain linear	10 × d
Minimum bending radius, flexible	8 × d
Minimum bending radius, fixed	7.5 × d
Temperature, e-chain linear	+5 °C to +80 °C (+41 °F to +176 °F)
Temperature, flexible	−5 °C to +80 °C (+23 °F to +176 °F)
Temperature, fixed	−20 °C to +90 °C (−4 °F to +194 °F)
v max	3 m/s (9.84 ft/s) unsupported; 2 m/s (6.56 ft/s) gliding
a max	20 m/s^2 (65.6 ft/s^2)
Travel distance	Unsupported and low-duty gliding up to 9 m (30 ft); not recommended for long travel or gliding
Torsion	±360° (as given in datasheet class rating)

Parameter	Value
Guaranteed service life bending radius (1/3/5 M cycles)	+23 to +59 °F: 12/13/15 × d; +59 to +140 °F: 10/12/13 × d; +140 to +176 °F: 12/13/15 × d
Flame retardance	CSA AWM FT4; passes UL and CSA 70,000 BTU vertical flame tests
UL rating	AWM 2587, 90 °C, 600 V
UV resistance	Medium
Oil resistance	Oil-resistant to DIN EN 60811-2-1 and DIN EN 50363-4-1 (Class 4)
Silicone-free	Yes
NFPA	NFPA 79 section 12.9
UL/CSA	Suitable for installation per applicable NEC sections; tray cable TC-ER and TC-ER-HL (Class I and II, Division 1 and 2, Zone 1 and 2); direct burial; oil-resistant; WTTC (wind turbine tray cable); MTW; UL AWM 2587, 90 °C, 600 V; cUL CIC-TC FT4; CSA AWM I/II A/B 90 °C 600 V FT4
CE / lead-free	CE to 73/23/EEC and 2014/35/EU; lead-free to 2002/95/EC
Guarantee	5 million cycles guaranteed, up to 36 months

Dimensions, Weights & Ratings — FC-ECH140US PVC · C

Cores × cross-section mm²	FeiChun part no.	AWG	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.5 mm² (20 AWG)					
2×0.5	FC-ECH140US-001	20 AWG	8.8	22	82
3G0.5	FC-ECH140US-002	20 AWG	9.1	31	99
4G0.5	FC-ECH140US-003	20 AWG	9.9	37	111
5G0.5	FC-ECH140US-004	20 AWG	10.4	42	130
7G0.5	FC-ECH140US-005	20 AWG	11.7	56	161
12G0.5	FC-ECH140US-006	20 AWG	14.0	91	246
18G0.5	FC-ECH140US-007	20 AWG	16.1	125	326
25G0.5	FC-ECH140US-008	20 AWG	19.7	172	433
0.75 mm² (18 AWG)					
4G0.75	FC-ECH140US-009	18 AWG	10.2	48	132
5G0.75	FC-ECH140US-010	18 AWG	10.8	43	151
7G0.75	FC-ECH140US-011	18 AWG	12.2	76	189
12G0.75	FC-ECH140US-012	18 AWG	14.6	128	293
18G0.75	FC-ECH140US-013	18 AWG	16.8	183	398
25G0.75	FC-ECH140US-014	18 AWG	19.7	240	422
1.5 mm² (16 AWG)					
3G1.5	FC-ECH140US-015	16 AWG	10.3	55	138
4G1.5	FC-ECH140US-016	16 AWG	10.9	69	162
5G1.5	FC-ECH140US-017	16 AWG	11.7	94	186
7G1.5	FC-ECH140US-018	16 AWG	13.3	118	230
12G1.5	FC-ECH140US-019	16 AWG	16.3	177	372
18G1.5	FC-ECH140US-020	16 AWG	18.4	252	498
22G1.5	FC-ECH140US-021	16 AWG	19.2	303	574
25G1.5	FC-ECH140US-022	16 AWG	21.6	359	677
33G1.5	FC-ECH140US-023	16 AWG	23.5	457	861
2.5 mm² (14 AWG)					
4G2.5	FC-ECH140US-024	14 AWG	11.8	100	204
7G2.5	FC-ECH140US-025	14 AWG	14.9	165	324
12G2.5	FC-ECH140US-026	14 AWG	17.5	268	486
18G2.5	FC-ECH140US-027	14 AWG	20.0	298	522
4.0 mm² (12 AWG)					
4G4.0	FC-ECH140US-028	12 AWG	14.5	148	291
6.0 mm² (10 AWG)					
4G6.0	FC-ECH140US-029	10 AWG	16.3	231	402
5G6.0	FC-ECH140US-030	10 AWG	17.5	278	474

30 Standards & Tests

Standard	Scope
DIN EN 60228	
DIN VDE 0298-3	Use of cables — bending radii, tensile load
DIN EN 50395	
DIN EN 50289-1-2	
DIN 47100	
DIN EN 60811-504	
DIN EN 50305	
DIN EN 50363-10-2	
IEC 60332-1-2	Flame propagation, single cable
NEK 606	
DIN EN ISO 14644-1	
NFPA 79-2018	
2014/35/EU	
RoHS II/III	
DIN EN 50363-4-1	
RoHS II	
DIN EN 60811-404	Oil resistance of sheath
VDMA 24568	
DIN EN 60754	
2011/65/EU	
Regulation (EC) No. 1907/2006	REACH
UL VW-1	
CSA FT1	
NFPA 79-2018, chapter 12.9	

Routine & type tests

- AC voltage test on every production length (2000 V for 300/500 V series, 3300 V for 600 V series)
- Conductor resistance and dimensional checks
- Bending-cycle tests in the e-chain test rig (type test)
- Flame retardance test (IEC 60332-1-2)
- Shield continuity check

Test documentation: each delivery is accompanied by a FeiChun in-house laboratory inspection certificate. Third-party witnessed testing can be arranged at the buyer's cost.

Standard	Scope
UL/CSA AWM Style 20200 / 10493	
UL 1277	TC-ER
UL 2277	WTTC
MTW	
UL/CSA AWM Style 2587 / 10493	
CSA FT4	
NEC Article 501 / 502	
UL/CSA AWM Style 2464	
NFPA 79-2018 ch. 12.9	
2011/65/EC	RoHS-II/III
REACH	EC) 1907/2006
UL/CSA AWM Style 20940	
EAC	
UKCA	
UL/CSA AWM Style 20317	
CSA FT2	
NFPA 79-2018 section 12.9	
UL/CSA AWM	
RoHS-II/III	2011/65/EU
ASTM B174-95	conductor
UL 1685 / CSA FT4	flame
NFPA 79 section 12.9	
NEC tray cable TC-ER / TC-ER-HL	
UL AWM 2587	

Standard	Scope
CSA AWM I/II A/B	
DIN EN 60811-2-1	
2002/95/EC	RoHS

31 Installation, Marking & Delivery

Installation notes

- Lay the cable in the e-chain without twisting, with at least 10 % clearance to the chain cross-section and to neighbouring cables.
- Observe the minimum bending radius stated in the technical data; use separators to keep cables of different diameters apart.
- Fix the cable with strain relief at both ends of the e-chain (moving and fixed end) — never within the bending zone.
- Unreel tangentially from the drum and lay the cable out to relax before installation; do not pull it off over the flange.
- Use the cores in their original lay-up; do not combine cables of different series in one chamber without separators.
- Terminate the overall shield 360° in EMC cable glands at both ends.

Sheath marking

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FEICHUN FC-ECH[…] [cores × cross-section] [U0/U] [year] [metre mark]
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Packing & delivery

Item	Standard
Drum	Steel or fumigated wooden drums, ends sealed with heat-shrink caps
Lengths	To order, single continuous length (no joints)
Production lead time	2–3 weeks after technical confirmation
Warranty	Min. 3 years against manufacturing defects
Drum label	Type, size, length, gross/net weight, batch no., drum no.

32 Certifications & Quality

CE — LVD 2014/35/EU

Attestation No. M.2025.206.C116598 · EN 50525-1:2011+A1:2022 · UDEM International Certification · valid to 01.04.2030

EAC — TR CU 004/2011

Certificate No. ЕАЭС KG417/052.CN.02.15390 · GOST 31996-2012, GOST 31565-2012 · valid 24.10.2025–23.10.2030

UKCA — Verification

No. ICR/VC/HS2508110 · BS EN 50525-1:2011+A1:2022 · ICR Polska · valid to 17.08.2030

FeiChun also holds ATEX (Directive 2014/34/EU) documentation verification and IECEx / VDE related approvals for designated product families. Mine-specific approvals are arranged with the end user or local distributor where required. Certificate copies are available on request.

33 Trademark Notice & Intellectual Property

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