TYPE · LV RUBBER CABLE · CONCENTRIC EARTH | 0.6/1 kV | 19 Variants

Acc. to SRPS N.C5.353

FC-EPN55 EpN 55 0,6/1 kV

LV rubber-sheathed flexible cable of the EpN 55 type with concentric tinned copper earth — power and control versions, yellow or grey CR sheath.

Document No. **FC-TDS-E55-2026-2389** Revision **0** Issue date **12 October 2026** Language **English (AU)**

01 Application & Product Overview

FC-EPN55 is a low voltage rubber-sheathed flexible cable of the EpN 55 type for underground mines, with a concentric tinned copper braid earth over the core assembly; power and control versions are available.

EPR-insulated cores are laid up and covered with semi-conductive tape and a concentric tinned copper braid that serves as protective conductor, under a polychloroprene outer sheath — yellow for power and grey for control cables.

Typical applications

- Semi-fixed LV supply of underground machines and distribution boxes
- Conveyors, pumps, fans and auxiliary equipment in roadways
- Cables relocated as the face or heading advances
- Wet and submerged conditions in pumping stations
- Underground coal and hard-rock mines (with approved couplers)

19 variants
Conductor range 1.5 – 150 mm²

0.6/1 kV
Rated voltage, AC test 2.5 kV

Concentric
Copper earth

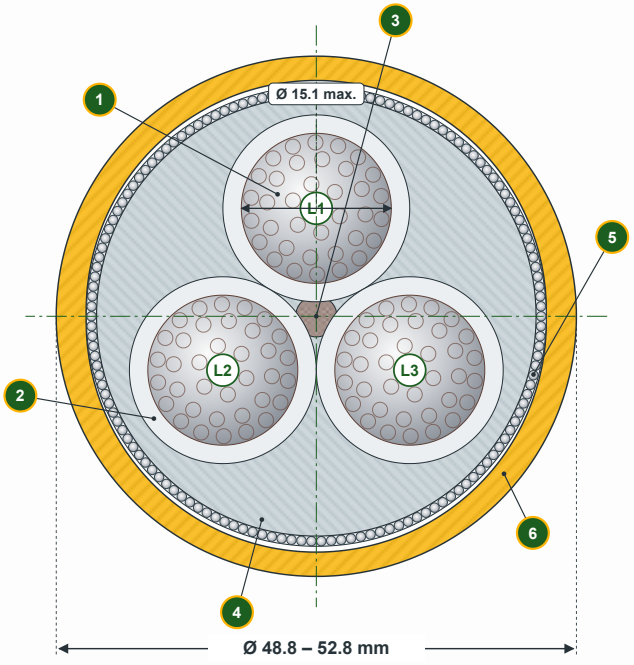
Power + control
Two versions

Cross-reference

REFERENCE TYPE	FEICHUN EQUIVALENT
EPN 55 0,6/1 kV	FC-EPN55 EpN 55 0,6/1 kV

Manufactured to the EPN 55 0,6/1 kV construction.

02 Construction



FEICHUN · SECTION A–A · 0.6/1 kV
FC-EPN55 EpN 55
Doc. No. FC-TDS-E55-2026-2389
Ref. 3×95 mm²
Rev. 0 · 2026-10-12 · 1st-angle · NTS

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

Pos.	Element	Material
1	Conductor	Annealed copper, finely stranded, class 5 (IEC 60228)
2	Insulation	EPR rubber compound
3	Centre filler	Rubber filler
4	Inner sheath	Rubber compound GP5
5	Concentric earth	Tinned copper braid over semi-conductive tape
6	Outer sheath	Polychloroprene (CR) GP7, yellow (power) / grey (control)

Drawing: 3×95 mm² reference size.

Construction details

Element	Description
Conductor	Flexible tinned copper, class 5 to IEC 60228 / SRPS N.C0.015
Insulation	EPR rubber compound, type GI2 (SRPS N.C0.190) / 3GI3 (DIN VDE 0207-20)
Lay-up	Cores stranded concentrically in layers, with rubber fillers as required

Element	Description
Inner sheath	Synthetic rubber compound, type GP5 (SRPS N.C0.190) / GM1b (DIN VDE 0207-21)
Semi-conductive tape	Semi-conductive tape applied over the inner sheath
Concentric protective conductor	Braid of tinned copper wires over the semi-conductive tape; cross-section as stated after the slash in the designation
Outer sheath	Polychloroprene (CR) heavy-duty compound, type GP7 (SRPS N.C0.190) / 5GM5 (DIN VDE 0207-21); oil, flame and abrasion resistant; yellow (power cables), grey (signal and control cables)

03 Electrical, Thermal & Mechanical Data

Electrical parameters

Parameter	Value
Rated voltage U_0/U	0.6/1 kV
Max. operating voltage Um	1.2 kV
Test voltage	2.5 kV AC
Current ratings	At 30 °C ambient in air, DIN VDE 0298-4; power cables 3 loaded cores; multicore control cables with the DIN VDE 0298-4 multicore derating factor applied

Thermal & mechanical parameters

Parameter	Value
Max. conductor temperature	+90 °C
Max. short-circuit temperature	+250 °C (max. 5 s)
Ambient temperature, flexing	−25 °C to +40 °C
Ambient temperature, fixed	−30 °C to +40 °C
Min. bending radius	5 x D
Max. tensile load on conductors	15 N/mm² (static)
Flame retardance	IEC 60332-1-2
Oil resistance	DIN VDE 0472-803, method A

Parameter	Value
Sheath properties	Resistant to oils, flame, abrasion, tearing and ozone

04 Dimensions, Weights & Ratings — 0.6/1 kV (19 variants)

Type designation cores × mm²	FeiChun part no.	Conductor Ø max. mm	Outer diameter min. mm	Outer diameter max. mm	Min. bending radius mm	Weight approx. kg/km	Max. tensile force N	R_{20} max. Ω/km	Current rating A	Short-circuit current kA (1 s)
Power cables, 3 cores + concentric protective conductor (yellow sheath)										
3×2.5/2.5	FC-E55-001	2.6	15.0	17.0	85	340	112	8.210	30	0.36
3×4/4	FC-E55-002	3.2	16.9	18.9	94	450	180	5.090	41	0.57
3×6/6	FC-E55-003	3.9	18.4	20.4	102	570	270	3.390	53	0.86
3×10/10	FC-E55-004	5.1	23.0	25.0	125	900	450	1.950	74	1.43
3×16/16	FC-E55-005	6.3	25.3	28.3	142	1,240	720	1.240	99	2.29
3×25/16	FC-E55-006	7.8	30.7	33.7	168	1,770	1,125	0.795	131	3.57
3×35/16	FC-E55-007	9.2	33.7	36.7	184	2,190	1,575	0.565	162	5.00
3×50/25	FC-E55-008	11.0	38.6	41.6	208	2,980	2,250	0.393	202	7.15
3×70/35	FC-E55-009	13.1	43.6	47.6	238	4,000	3,150	0.277	250	10.01
3×95/50	FC-E55-010	15.1	48.8	52.8	264	5,210	4,275	0.210	301	13.58
3×120/70	FC-E55-011	17.0	53.6	57.6	288	6,440	5,400	0.164	352	17.16
3×150/70	FC-E55-012	19.0	59.5	63.5	318	7,840	6,750	0.132	404	21.45
Signal and control cables, multicore + concentric protective conductor (grey sheath)										
7×1.5/1.5	FC-E55-013	1.8	16.3	18.3	92	400	158	13.700	15	0.21
12×1.5/1.5	FC-E55-014	1.8	21.7	23.7	118	670	270	13.700	12	0.21
19×1.5/1.5	FC-E55-015	1.8	24.7	26.7	134	910	428	13.700	10	0.21
24×1.5/1.5	FC-E55-016	1.8	28.4	30.4	152	1,160	540	13.700	9	0.21
7×2.5/2.5	FC-E55-017	2.6	18.8	20.8	104	550	262	8.210	20	0.36
12×2.5/2.5	FC-E55-018	2.6	25.0	27.0	135	930	450	8.210	16	0.36
19×2.5/2.5	FC-E55-019	2.6	28.8	30.8	154	1,290	712	8.210	14	0.36

Current rating: DIN VDE 0298-4 values for flexible rubber cables at 30 °C ambient — apply the factors below for other ambient temperatures, grouping and multi-layer laying. Bending radius: 5 × D. Tensile force: 15 N/mm² × total conductor cross-section. Further sizes and special designs are manufactured to order.

Ambient temperature factors (90 °C conductor)

°C	20	25	30	35	40	45	50
Factor	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Short-circuit rating

Permissible short-circuit current for 1 s: $I_k = 0.143$ kA/mm² × phase cross-section (EPR, 90 °C → 250 °C, tinned copper). For other durations t: $I_{k,t} = I_{k,1s} / \sqrt{t}$ (0.1 s ≤ t ≤ 5 s).

05 Standards & Tests

Standard	Scope
SRPS N.C5.353	
DIN VDE 0250-812	Basis of design — flexible mining cables, low voltage — comparable construction, NSSHÖU …KON
SRPS N.C0.015 / IEC 60228 class 5	Conductors, class 5
SRPS N.C0.190	insulation and sheath compounds
IEC 60332-1-2	Flame propagation, single cable
DIN VDE 0472-803 method A	Oil resistance test, method A

Routine & type tests

- AC voltage test 2.5 kV on every drum
- Conductor resistance and dimensional checks
- Continuity of earth, screen and control conductors
- Flame retardance (IEC 60332-1-2) and oil resistance (IEC 60811-404) of the outer sheath

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.

06 Installation, Marking & Delivery

Installation notes

- Semi-fixed installation: lay or hang the cable on supports and hooks without sharp edges; the cable may be relocated as the face or heading advances.
- Observe the minimum bending radius during installation and relocation (see table).
- Unwind tangentially from the delivery drum — never pull off over the flange; avoid loops and kinks.
- Keep tensile force within 15 N/mm² of the total conductor cross-section; support vertical runs at regular intervals.
- Connect all earth conductors and screens at both ends; connect control / monitoring conductors to the protection relay.
- Use terminations, plugs and couplers approved for the mine and suited to the rated voltage.

Sheath marking

```
FEICHUN FC-EPN55 EpN 55 [size] 0,6/1 kV [year] [serial no.] [metre mark]
```

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

Item	Standard
Warranty	Min. 3 years against manufacturing defects
Drum label	Type, size, length, gross/net weight, batch no., drum no.

07 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.

08 Trademark Notice & Intellectual Property

The type designation EpN 55 refers to a published standard construction and is cited solely for technical cross-referencing. FC-EPN55 is a FeiChun product manufactured to that construction; no affiliation with any other manufacturer offering the same type is implied.

© 2026 Anhui FeiChun Special Cable Co., Ltd. — All rights reserved. This document, including its drawings, tables and layout, is the intellectual property of FeiChun and is protected under the Copyright Law and the Anti-Unfair Competition Law of the People's Republic of China and the Copyright Act 1968 (Cth) of Australia. Reproduction, redistribution or modification in whole or in part without written consent is prohibited. Technical data are subject to change without notice as part of continuous product development.

Technical & Sales Contact

Anhui FeiChun Special Cable Co., Ltd.

International Business Department

No. 1 Park, Private Science & Technology Park, Hefei National ETDZ, Hefei, Anhui, China

Technical: Tech@feichuncables.com

Mining & heavy industry: mining@feichuncables.com

Zihao Yang, Global Sales Manager:

zihao.yang@feichuncables.com

WhatsApp: +86 138 5512 3218

Web: www.feichuncables.com

Document Control

Doc. No. FC-TDS-E55-2026-2389

Revision 0 — first issue

Date 12 October 2026

Product FC-EPN55 EpN 55 0,6/1 kV

Prepared — Technical Dept.	Checked — QA	Approved — Intl. Business

FEICHUN CABLE