TYPE · LV RUBBER CABLE · CORE SHIELD | 0.6/1 kV | 9 Variants

Acc. to SRPS N.C5.353

FC-EPN53 EpN 53 0,6/1 kV

LV rubber-sheathed flexible cable of the EpN 53 type with individual tinned copper braid shield on each core — yellow CR sheath.

Document No. **FC-TDS-E53-2026-D004** Revision **0** Issue date **12 October 2026** Language **English (AU)**

01 Application & Product Overview

FC-EPN53 is a low voltage rubber-sheathed flexible cable of the EpN 53 type for underground mines, with each main core individually shielded by a tinned copper braid acting as protective conductor.

Damage to a core first brings it into contact with its own earthed shield, so faults are cleared as earth faults. A rubber inner sheath and a yellow polychloroprene outer sheath protect the cable against abrasion, oil and moisture.

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)

9 variants
Conductor range 2.5 – 70 mm²

0.6/1 kV
Rated voltage, AC test 2.5 kV

Core shield
Tinned copper braid

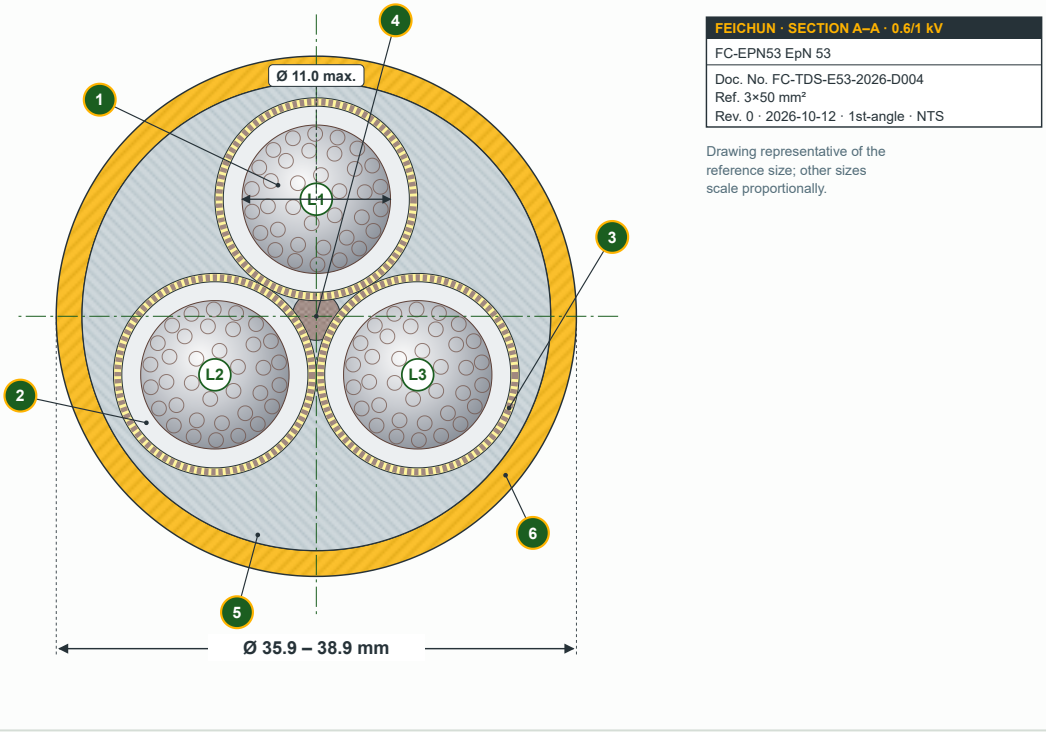
5 × D
Min. bending radius

Cross-reference

REFERENCE TYPE	FEICHUN EQUIVALENT
EPN 53 0,6/1 kV	FC-EPN53 EpN 53 0,6/1 kV

Manufactured to the EPN 53 0,6/1 kV construction.

02 Construction



Pos.	Element	Material
1	Conductor	Annealed copper, finely stranded, class 5 (IEC 60228)
2	Insulation	EPR rubber compound
3	Core shield (E)	Tinned copper braid over each core — protective conductor
4	Centre filler	Rubber filler
5	Inner sheath	Rubber compound GP5 / GM1b
6	Outer sheath	Polychloroprene (CR) GP7 / 5GM5, yellow

Drawing: 3×50 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)
Semi-conductive layer	Semi-conductive rubber layer or tape over the insulation of each power core

Element	Description
Individual core screen / protective conductor	Braid of tinned copper wires over each power core; the three braids together form the protective earth conductor (split earth, /3E)
Lay-up	Three screened power cores stranded together, with rubber fillers as required
Inner sheath	Synthetic rubber compound, type GP5 (SRPS N.C0.190) / GM1b (DIN VDE 0207-21)
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), grey (signal/control)

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, 3 loaded cores, in air (DIN VDE 0298-4)

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

Parameter	Value
Oil resistance	DIN VDE 0472-803, method A
Sheath properties	Resistant to oils, flame, abrasion, tearing and ozone

04 Dimensions, Weights & Ratings — 0.6/1 kV (9 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)
3×2.5+3×2.5/3E	FC-E53-001	2.6	13.6	15.2	76	342	112	8.210	30	0.36
3×4+3×4/3E	FC-E53-002	3.2	16.1	18.1	90	484	180	5.090	41	0.57
3×6+3×6/3E	FC-E53-003	3.9	17.4	19.4	97	576	270	3.390	53	0.86
3×10+3×10/3E	FC-E53-004	5.1	20.3	22.3	112	831	450	1.950	74	1.43
3×16+3×16/3E	FC-E53-005	6.3	23.9	25.9	130	1,198	720	1.240	99	2.29
3×25+3×16/3E	FC-E53-006	7.8	27.7	30.7	154	1,660	1,125	0.795	131	3.57
3×35+3×16/3E	FC-E53-007	9.2	30.1	33.1	166	2,016	1,575	0.565	162	5.00
3×50+3×25/3E	FC-E53-008	11.0	35.9	38.9	194	2,878	2,250	0.393	202	7.15
3×70+3×35/3E	FC-E53-009	13.1	40.6	43.6	218	3,827	3,150	0.277	250	10.01

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 …/3E

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

Standard	Scope
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

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-EPN53 EpN 53 [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
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 53 refers to a published standard construction and is cited solely for technical cross-referencing. FC-EPN53 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-E53-2026-D004
Revision 0 — first issue
Date 12 October 2026
Product FC-EPN53 EpN 53 0,6/1 kV

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

FEICHUN CABLE