TYPE · LV COAL-CUTTER CABLE · RUBBER | 0.6/1 kV | 5 Variants

Acc. to SRPS N.C5.360

FC-EPN63 EpN 63 0,6/1 kV

Heavy-duty rubber-sheathed flexible coal-cutter cable to SRPS N.C5.360 — screened EPR power cores, command and control cores, concentric copper earth and yellow PCP sheath.

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01 Application & Product Overview

FC-EPN63 is a heavy-duty flexible rubber cable for gassy underground coal mines, used to supply and directly connect longwall shearers, coal-cutting and loading machines, roadheaders and tunnelling machines.

Three EPR power cores with semi-conductive screens are laid up with two 4 mm² command cores and a 10 mm² control (monitoring) core with semi-conductive covering. A rubber inner sheath carries a 16 mm² concentric tinned copper protective conductor, protected by a yellow polychloroprene outer sheath.

Typical applications

- Longwall shearers and coal cutter-loaders
- Roadheaders and tunnelling machines
- Gate-end and mobile distribution connections
- Underground coal mines with fire, firedamp and coal-dust explosion risk
- Earth-fault monitoring via the control core

5 variants
50 – 150 mm²

0.6/1 kV
Rated voltage, 3 kV test

16 mm²
Concentric Cu protective conductor

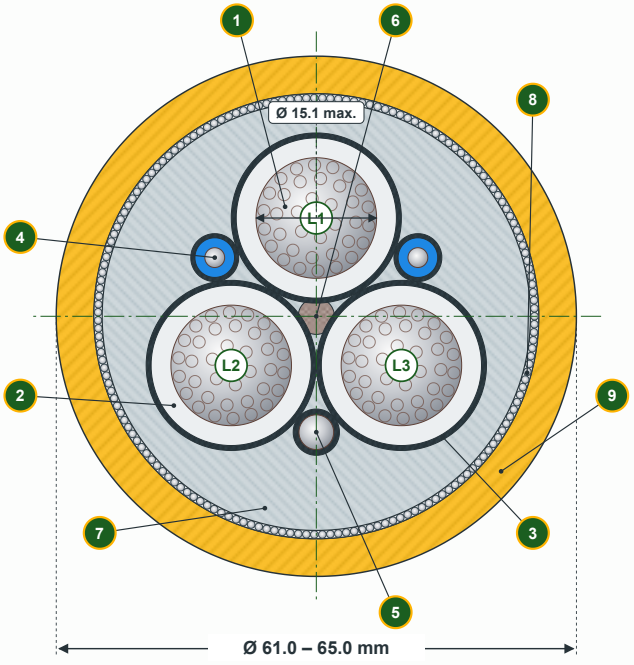
5GM5 / GP7
Yellow PCP outer sheath

Cross-reference

REFERENCE TYPE	FEICHUN EQUIVALENT
EPN 63 0,6/1 kV	FC-EPN63 EpN 63 0,6/1 kV

Manufactured to the construction of EpN 63 per SRPS N.C5.360 (comparable to DIN VDE 0250-812).

02 Construction



FEICHUN · SECTION A–A · 0.6/1 kV

FC-EPN63 EpN 63

Doc. No. FC-TDS-EPN-2026-C457
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	Power conductor	Flexible tinned copper, class 5 (IEC 60228)
2	Insulation	EPR rubber GI2 (SRPS N.C0.190) / 3GI3 (DIN VDE 0207-20); 2.0–2.4 mm
3	Core screen	Semi-conductive layer over each power core
4	Command cores	2 × 4 mm² tinned copper, EPR insulated, semi-conductive covering
5	Control (monitoring) core	1 × 10 mm² tinned copper with semi-conductive layer only
6	Centre filler	Rubber
7	Inner sheath	Rubber compound GP2 / GM1b
8	Concentric protective conductor	16 mm² tinned copper wires (or Cu / galvanised steel combination)
9	Outer sheath	Polychloroprene GP7 / 5GM5, 3.5–4.5 mm, yellow; oil-, flame-, abrasion- and tear-resistant

Drawing: 3×95 mm² reference size.

Construction details

Element	Description
Power conductors	3 x flexible tinned copper, class 5 to IEC 60228 / SRPS N.C0.015
Power core insulation	EPR rubber compound, type GI2 (SRPS N.C0.190) / 3GI3 (DIN VDE 0207-20); 2.0 mm (25–70 mm^2), 2.4 mm (95–150 mm^2); semi-conductive layer or tape over insulation
Command (auxiliary) cores	2 x 4 mm^2 flexible tinned copper, class 5, EPR insulated, semi-conductive layer over insulation
Control (monitoring) core	1 x 10 mm^2 flexible tinned copper, class 5, covered with a semi-conductive layer only (uninsulated), laid in an interstice between the power cores
Lay-up	3 power cores, 2 command cores and 1 control core stranded together, wrapped with semi-conductive tape
Inner sheath	Natural/synthetic rubber compound, type GP2 (SRPS N.C0.190) / GM1b (DIN VDE 0207-21)
Concentric protective conductor	16 mm^2 concentric layer of tinned copper wires or strands, or tinned copper combined with galvanised steel wires
Outer sheath	Polychloroprene (CR) heavy-duty compound, type GP7 (SRPS N.C0.190) / 5GM5 (DIN VDE 0207-21), 3.5–4.5 mm, yellow; oil, flame, abrasion and tear resistant

03 Electrical, Thermal & Mechanical Data

Electrical parameters

Parameter	Value
Rated voltage U_0/U	0.6/1 kV
Test voltage	3 kV AC power cores, 2 kV AC command cores

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

Parameter	Value
Ambient temperature, fixed	−30 °C to +40 °C
Min. bending radius	Fixed 4 x D; moved during operation 5 x D; on reels 6 x D; over guides/rollers or dragged 7 x D
Max. tensile load on conductors	15 N/mm² of power conductor cross-section
Flame retardance	IEC 60332-1-2
Oil resistance	DIN VDE 0472-803, method A
Sheath properties	Resistant to impact, crushing, abrasion, tearing, oils, acids and alkalis
Standard delivery lengths	250 m (50–95 mm²), 200 m (120–150 mm²)

04 Dimensions, Weights & Ratings — 0.6/1 kV (5 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)
3×50/16+2×4+10	FC-EPN-001	11.0	49.0	53.0	255	4,385	2,250	0.393	180	7.15
3×70/16+2×4+10	FC-EPN-002	13.1	55.0	59.0	285	5,480	3,150	0.277	218	10.01
3×95/16+2×4+10	FC-EPN-003	15.1	61.0	65.0	315	6,735	4,275	0.210	254	13.58
3×120/16+2×4+10	FC-EPN-004	17.0	65.0	69.0	335	7,615	5,400	0.164	296	17.16
3×150/16+2×4+10	FC-EPN-005	19.0	71.0	75.0	365	9,085	6,750	0.132	337	21.45

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 (moved during operation). Tensile force: 15 N/mm² × total phase cross-section. Further sizes and special designs are manufactured to order.

Ambient temperature factors (90 °C

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: $I_{k,t} = I_k / \sqrt{t}$ (0.1 s ≤ t ≤ 5 s)

conductor)

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

05 Standards & Tests

Standard	Scope
SRPS N.C5.360	Rubber-insulated flexible mining cables (EpN 63) — ex JUS N.C5.360
DIN VDE 0250-812	Basis of design — flexible mining cables, low voltage — comparable construction
IEC 60228 class 5	Conductors, class 5
IEC 60332-1-2	Flame propagation, single cable
DIN VDE 0472-803 method A	Oil resistance test, method A — oil resistance

Routine & type tests

- AC voltage test 3 kV (power cores) and 2 kV (command cores) on every drum
- Conductor resistance and dimensional checks
- Continuity of concentric protective and control conductors
- Flame retardance (IEC 60332-1-2) and oil resistance (DIN VDE 0472-803 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

- Minimum bending radius: fixed 4 × D; moved in operation 5 × D; on reels 6 × D; over guides / rollers or dragged 7 × D.
- Do not exceed 15 N/mm² tensile load on the power conductors.
- Connect the concentric protective conductor at both ends; connect the control core to the earth-fault / monitoring relay.
- Unwind tangentially from the delivery drum; lay out to relax before use.
- Use approved flameproof plugs and couplers; inspect and repair sheath damage promptly.

Sheath marking

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FEICHUN FC-EPN63 EpN 63
3×[size]/16+2×4+10 0,6/1 kV [year]
[serial no.] [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)

Item	Standard
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 63 refers to a published standard construction and is cited solely for technical cross-referencing. FC-EPN63 is a FeiChun product manufactured to that construction; no affiliation with any other manufacturer offering the same type is implied.

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FEICHUN CABLE