TDS · PROJECT PACKAGE | GB/T 12706 · IEC 60502-1/-2 | IEC 60332-3-24 Cat. C | SA core colours | 61 lines · 7 families

South Africa Project Cable Package
Technical Data Sheet

LV & MV XLPE power, VSD, screened control, rubber cabtyre and earthing conductors — engineered to the client schedule "Cable breakdown · SA terms", with every line mapped to a FeiChun construction.

Doc. no. **FC-TDS-ZAP-2026-CF31** Revision **B** Issued **2026-10-09** Scheduled length **39,071 m** Destination **Republic of South Africa**

01 Package overview & document control

FC-TDS-ZAP-2026-CF31

The client schedule lists 61 cable lines translated into South African procurement terms. FeiChun has grouped them into seven product families; each family carries its own sub-document number so it can be referenced independently in submittals, test reports and the packing list.

ZR-YJV 0.6/1 kV — A
11,851 m
22 lines

ZR-YJV32 0.6/1 kV — B
1,260 m
6 lines

ZR-BPYJV 0.6/1 kV — C
170 m
2 lines

ZR-YJV / ZR-YJV32 6/6 kV · 8.7/15 kV — D
1,850 m
7 lines

ZR-KVVP 450/750 V — E
15,410 m
13 lines

FC-FLX™ H07RN-F 450/750 V — F
3,180 m
4 lines

FC-BCE bare copper 1×150 · 1×70 mm² — G
5,350 m
7 lines

Fam.	Sub-document no.	Product	Lines	Qty m
A	FC-TDS-YJV-2026-CF31	**ZR-YJV 0.6/1 kV** Flame-retardant Cu/XLPE/PVC power cable, unarmoured	22	11,851
B	FC-TDS-Y32-2026-CF31	**ZR-YJV32 0.6/1 kV** Flame-retardant Cu/XLPE/PVC/SWA/PVC steel-wire armoured power cable	6	1,260
C	FC-TDS-VFD-2026-CF31	**ZR-BPYJV 0.6/1 kV** Flame-retardant symmetrical VSD/VFD power cable, copper-screened	2	170
D	FC-TDS-MVX-2026-CF31	**ZR-YJV / ZR-YJV32 6/6 kV · 8.7/15 kV** Flame-retardant Cu/XLPE MV power cable, Cu-tape screened	7	1,850
E	FC-TDS-KVP-2026-CF31	**ZR-KVVP 450/750 V** Flame-retardant PVC multicore control cable, copper-braid screened	13	15,410
F	FC-TDS-RNF-2026-CF31	**FC-FLX™ H07RN-F 450/750 V** Heavy-duty rubber flexible cable (cabtyre)	4	3,180
G	FC-TDS-BCE-2026-CF31	**FC-BCE bare copper 1×150 · 1×70 mm²** Bare stranded copper earth / lightning-protection conductor	7	5,350
		Package total	**61**	**39,071**

DOCUMENT CONTROL

Document	FC-TDS-ZAP-2026-CF31
Title	Technical Data Sheet — South Africa project cable package
Client reference	Cable breakdown — SA terms (61 lines)
Revision / date	B · 2026-10-09 · updated per client reply
Revision history	A — first issue for client review B — client answers applied: bare copper earthing, steel-wire armour, SA core colours, quantities confirmed
Prepared by	Zihao Yang, Technical Sales — International Business Dept.
Reviewed by	FeiChun Technical Department
Manufacturer	Anhui FeiChun Special Cable Co., Ltd., Hefei, Anhui, China
Units / language	SI units · Australian English
Certification	Designed and tested to GB/T / IEC 60502 with FeiChun in-house test reports; no SABS mark held — see section 12
Values	Dimensions and masses are nominal design values (≈); limits (R_{20}, test voltages) are guaranteed

02 Schedule cross-reference — client line → FeiChun offer

61 lines

Item numbers follow the client schedule. “Family” links to the construction and data section for that product.

Item	Category	Client designation (as scheduled)	South African trade description	FeiChun offer	Family	Qty m
1	Earthing / Grounding	1x150 mm²	Bare copper earth conductor, stranded	**FC-BCE bare Cu · 1×150 mm² (37/2.25)**	G · BCE	200
2	Earthing / Grounding	1x70 mm²	Bare copper earth conductor, stranded	**FC-BCE bare Cu · 1×70 mm² (19/2.14)**	G · BCE	300
3	Earthing / Grounding	1x150 mm²	Bare copper earth conductor, stranded	**FC-BCE bare Cu · 1×150 mm² (37/2.25)**	G · BCE	150
4	Earthing / Grounding	Specification/size not clearly legible in schedule	Bare copper earth conductor, stranded	**FC-BCE bare Cu · 1×150 mm² (37/2.25)**	G · BCE	1,300
5	Earthing / Grounding	1x150 mm²	Bare copper earth conductor, stranded	**FC-BCE bare Cu · 1×150 mm² (37/2.25)**	G · BCE	150
6	Earthing / Grounding	1x150 mm²	Bare copper earth conductor, stranded	**FC-BCE bare Cu · 1×150 mm² (37/2.25)**	G · BCE	2,750
7	Power	3x2.5	Rubber cabtyre, 3-core (L + N + E)	**H07RN-F 450/750 V · 3G2.5**	F · RNF	1,000†
8	Power	3x2.5	Rubber cabtyre, 3-core (L + N + E)	**H07RN-F 450/750 V · 3G2.5**	F · RNF	1,400
9	Power	3x4	Rubber cabtyre, 3-core (L + N + E)	**H07RN-F 450/750 V · 3G4**	F · RNF	680
10	Power	3x4.0	Rubber cabtyre, 3-core (L + N + E)	**H07RN-F 450/750 V · 3G4**	F · RNF	100
11	Control	ZR-KVVP-450/750 V, 12x1.5	Screened multicore control cable, PVC/Cu braid/PVC	**ZR-KVVP 450/750 V · 12×1.5**	E · KVP	1,400
12	Control	ZR-KVVP-450/750 V, 2x1.5	Screened multicore control cable, PVC/Cu braid/PVC	**ZR-KVVP 450/750 V · 2×1.5**	E · KVP	300
13	Control	ZR-KVVP-450/750 V, 3x2.5	Screened multicore control cable, PVC/Cu braid/PVC	**ZR-KVVP 450/750 V · 3×2.5**	E · KVP	260
14	Control	ZR-KVVP-450/750 V, 4x1.5	Screened multicore control cable, PVC/Cu braid/PVC	**ZR-KVVP 450/750 V · 4×1.5**	E · KVP	2,600
15	Control	ZR-KVVP-450/750 V, 4x2.5	Screened multicore control cable, PVC/Cu braid/PVC	**ZR-KVVP 450/750 V · 4×2.5**	E · KVP	1,900
16	Control	ZR-KVVP-450/750V, 10x1.5	Screened multicore control cable, PVC/Cu braid/PVC	**ZR-KVVP 450/750 V · 10×1.5**	E · KVP	750
17	Control	ZR-KVVP-450/750V, 12x1.5	Screened multicore control cable, PVC/Cu braid/PVC	**ZR-KVVP 450/750 V · 12×1.5**	E · KVP	760
18	Control	ZR-KVVP-450/750V, 12x2.5	Screened multicore control cable, PVC/Cu braid/PVC	**ZR-KVVP 450/750 V · 12×2.5**	E · KVP	1,000†
		61 line items			Total	**39,071**

Item	Category	Client designation (as scheduled)	South African trade description	FeiChun offer	Family	Qty m
19	Control	ZR-KVVP-450/750V, 2x1.5	Screened multicore control cable, PVC/Cu braid/PVC	ZR-KVVP 450/750 V · 2×1.5	E · KVP	220
20	Control	ZR-KVVP-450/750V, 3x2.5	Screened multicore control cable, PVC/Cu braid/PVC	ZR-KVVP 450/750 V · 3×2.5	E · KVP	80
22	Control	ZR-KVVP-450/750V, 4x1.5	Screened multicore control cable, PVC/Cu braid/PVC	ZR-KVVP 450/750 V · 4×1.5	E · KVP	850
23	Control	ZR-KVVP-450/750V, 4x2.5	Screened multicore control cable, PVC/Cu braid/PVC	ZR-KVVP 450/750 V · 4×2.5	E · KVP	4,240
24	Control	ZR-KVVP-450/750V, 6x2.5	Screened multicore control cable, PVC/Cu braid/PVC	ZR-KVVP 450/750 V · 6×2.5	E · KVP	1,050
25	Lighting	3 × 2.5 mm²	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 3×2.5	A · YJV	250
26	Lightning / Grounding	1 × 150 mm² bare earth wire	Bare copper earth conductor, stranded	FC-BCE bare Cu · 1×150 mm² (37/2.25)	G · BCE	500
27	Power	YJV-0.6/1kV-1x95	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	YJV 0.6/1 kV · 1×95	A · YJV	10
28	Power	ZR-BPYJV-0.6/1 kV, 3x25+3x4	VSD (variable speed drive) cable, symmetrical 3+3 earth, Cu-screened	ZR-BPYJV 0.6/1 kV · 3×25+3×4	C · VFD	70
29	Power	ZR-BPYJV-0.6/1 kV, 3x35+3x6	VSD (variable speed drive) cable, symmetrical 3+3 earth, Cu-screened	ZR-BPYJV 0.6/1 kV · 3×35+3×6	C · VFD	100
30	Power	ZR-YJV-0.6/1 kV, 1x150 mm²	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 1×150	A · YJV	5
31	Power	ZR-YJV-0.6/1 kV, 3x25+1x16	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 3×25+1×16	A · YJV	1,300
32	Power	ZR-YJV-0.6/1 kV, 3x50+2x25	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 3×50+2×25	A · YJV	2,500
33	Power	ZR-YJV-0.6/1 kV, 3x70+2x35	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 3×70+2×35	A · YJV	130
34	Power	ZR-YJV-0.6/1 kV, 4x16	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 4×16	A · YJV	300
35	Power	ZR-YJV-0.6/1 kV, 4x2.5	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 4×2.5	A · YJV	700
36	Power	ZR-YJV-0.6/1 kV, 5x16	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 5×16	A · YJV	200
37	Power	ZR-YJV-0.6/1kV-1x150	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 1×150	A · YJV	6
38	Power	ZR-YJV-0.6/1kV-3x25+2x16	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 3×25+2×16	A · YJV	200
39	Power	ZR-YJV-0.6/1kV-3x35+2x16	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 3×35+2×16	A · YJV	40
40	Power	ZR-YJV-0.6/1kV-3x50+2x25	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 3×50+2×25	A · YJV	280
41	Power	ZR-YJV-0.6/1kV-3x95+2x50	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 3×95+2×50	A · YJV	110
42	Power	ZR-YJV-0.6/1kV-4x10	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 4×10	A · YJV	1,000
43	Power	ZR-YJV-0.6/1kV-4x2.5	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 4×2.5	A · YJV	1,800
44	Power	ZR-YJV-0.6/1kV-4x25	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 4×25	A · YJV	760
45	Power	ZR-YJV-0.6/1kV-4x35	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 4×35	A · YJV	960
46	Power	ZR-YJV-0.6/1kV-4x4	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 4×4	A · YJV	130
47	Power	ZR-YJV-0.6/1kV-4x6	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 4×6	A · YJV	40
48	Power	ZR-YJV-0.6/1kV-5x10	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 5×10	A · YJV	800
49	Power	ZR-YJV-0.6/1kV-5x16	Cu/XLPE/PVC 600/1000 V unarmoured power cable (FR)	ZR-YJV 0.6/1 kV · 5×16	A · YJV	330
50	Power	ZR-YJV-6/6kV-3x95	6.6 kV / 11 kV system XLPE MV cable (unarmoured / SWA)	ZR-YJV 6/6 kV · 3×95	D · MVX	200
51	Power	ZR-YJV-8.7/15kV-3x120	6.6 kV / 11 kV system XLPE MV cable (unarmoured / SWA)	ZR-YJV 8.7/15 kV · 3×120	D · MVX	50
52	Power	ZR-YJV-8.7/15kV-3x240	6.6 kV / 11 kV system XLPE MV cable (unarmoured / SWA)	ZR-YJV 8.7/15 kV · 3×240	D · MVX	5
		61 line items			Total	39,071

Item	Category	Client designation (as scheduled)	South African trade description	FeiChun offer	Family	Qty m
53	Power	ZR-YJV-8.7/15kV-3x50	6.6 kV / 11 kV system XLPE MV cable (unarmoured / SWA)	**ZR-YJV 8.7/15 kV · 3×50**	D · MVX	25
54	Power	ZR-YJV22-0.6/1 kV, 3x25+2x16	Cu/XLPE/PVC/SWA/PVC 600/1000 V steel-wire armoured (SWA) power cable (FR)	**ZR-YJV32 0.6/1 kV · 3×25+2×16**	B · Y32	80
55	Power	ZR-YJV22-0.6/1 kV, 3x50+2x25	Cu/XLPE/PVC/SWA/PVC 600/1000 V steel-wire armoured (SWA) power cable (FR)	**ZR-YJV32 0.6/1 kV · 3×50+2×25**	B · Y32	130
56	Power	ZR-YJV22-0.6/1 kV, 3x70+2x35	Cu/XLPE/PVC/SWA/PVC 600/1000 V steel-wire armoured (SWA) power cable (FR)	**ZR-YJV32 0.6/1 kV · 3×70+2×35**	B · Y32	250
57	Power	ZR-YJV22-0.6/1kV-3x35+2x16	Cu/XLPE/PVC/SWA/PVC 600/1000 V steel-wire armoured (SWA) power cable (FR)	**ZR-YJV32 0.6/1 kV · 3×35+2×16**	B · Y32	280
58	Power	ZR-YJV22-0.6/1kV-3x50+2x25	Cu/XLPE/PVC/SWA/PVC 600/1000 V steel-wire armoured (SWA) power cable (FR)	**ZR-YJV32 0.6/1 kV · 3×50+2×25**	B · Y32	280
59	Power	ZR-YJV22-0.6/1kV-5x16	Cu/XLPE/PVC/SWA/PVC 600/1000 V steel-wire armoured (SWA) power cable (FR)	**ZR-YJV32 0.6/1 kV · 5×16**	B · Y32	240
60	Power	ZR-YJV22-6/6kV-3x95	6.6 kV / 11 kV system XLPE MV cable (unarmoured / SWA)	**ZR-YJV32 6/6 kV · 3×95**	D · MVX	1,000†
61	Power	ZR-YJV22-8.7/15kV-3x50	6.6 kV / 11 kV system XLPE MV cable (unarmoured / SWA)	**ZR-YJV32 8.7/15 kV · 3×50**	D · MVX	170
62	Power	ZR-YJV22-8.7/15kV-3x70	6.6 kV / 11 kV system XLPE MV cable (unarmoured / SWA)	**ZR-YJV32 8.7/15 kV · 3×70**	D · MVX	400
		61 line items			Total	**39,071**

† Quantity confirmed by the client in reply to Rev A (1,000 m each for items 7, 18 and 60). Item numbers run 1–62 without item 21 — confirmed by the client as intentional (61 lines).

FAMILY A · YJV

03 ZR-YJV 0.6/1 kV

Flame-retardant Cu/XLPE/PVC power cable, unarmoured

FC-TDS-YJV-2026-CF31

Items 25, 27, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49

Total 11,851 m

The general-purpose 600/1000 V distribution cable of the schedule — fixed installation indoors, on cable ladder/tray, in ducts and, where mechanical protection is not required, direct in ground. Single-core 1×95 and 1×150 mm² are supplied for transformer/panel tails. The lighting circuit line (item 25) is offered in the same construction, 3×2.5 mm².

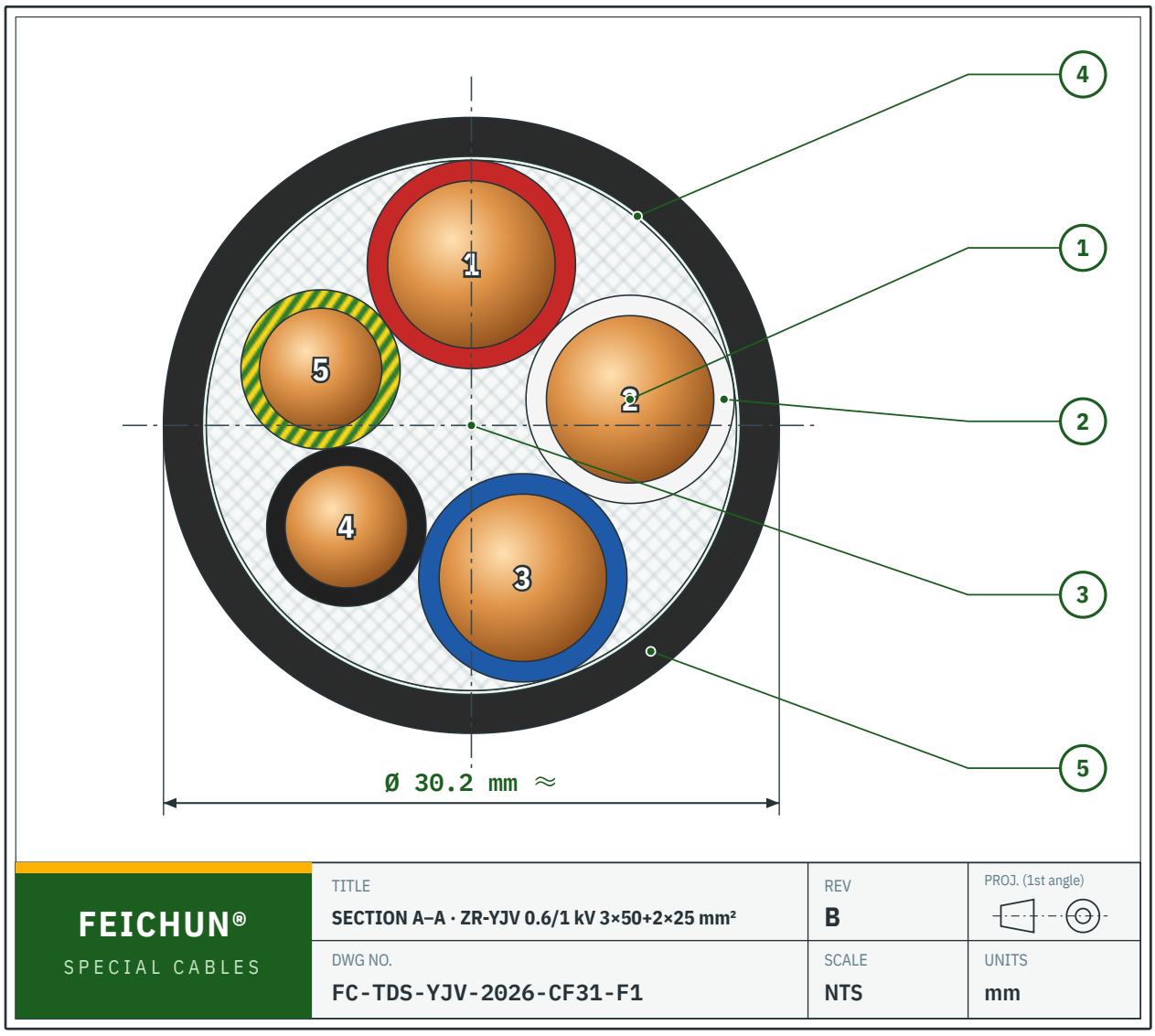


Fig. A-1 · Representative section, 3×50+2×25 mm² (items 32, 40 — 2,780 m). Cores 1–5: L1 red · L2 white · L3 blue · N black · PE green/yellow.

Pos.	Element	Material / specification
1	**Conductor**	Plain annealed copper, IEC 60228 / GB/T 3956 Class 2, circular stranded; compacted ≥ 16 mm²
2	**Insulation**	XLPE, 90 °C, IEC 60502-1 thickness; SA colours: red · white · blue · black (N) · green/yellow (PE)
3	**Filler**	Non-hygroscopic flame-retardant PP yarn / LS0H filler, round lay-up
4	**Binder**	Flame-retardant non-woven polyester tape, overlapped
5	**Outer sheath**	Flame-retardant PVC type ST2, black, UV-stabilised; embossed marking

RATED VOLTAGE U_0/U (U_m) 0.6/1 kV (1.2 kV)	**ROUTINE TEST VOLTAGE** 3.5 kV AC, 5 min
CONDUCTOR TEMPERATURE 90 °C continuous · 250 °C short circuit (≤ 5 s)	**INSTALLATION TEMPERATURE** ≥ 0 °C (cable and ambient)
MIN. BENDING RADIUS (INSTALLATION) Multicore 15 × OD · single-core 20 × OD	**FLAME RETARDANCE** GB/T 18380.33 Cat. C ≡ IEC 60332-3-24; single cable IEC 60332-1-2
DESIGN STANDARD GB/T 12706.1-2020 (IEC 60502-1 MOD)	**CERTIFICATION STATUS** Manufactured and tested to GB/T 12706.1 / IEC 60502-1; not SABS-marked (see section 12)

Client items	Size	Ph. cond. Ø mm	Ins. t mm (ph / N-PE)	Sheath t mm	OD ≈ mm	Mass ≈ kg/km	R_{20} max Ω/km (ph)	Amp. air / ground A	3-ph ΔU mV/A/m	I_k 1 s kA	Min. bend R mm	Qty m
27	**1×95**	11.6	1.1	1.5	**17.1**	1,015	0.193	342 / 238	0.47	13.6	342	10
30, 37	**1×150**	14.5	1.4	1.6	**20.8**	1,570	0.124	464 / 300	0.33	21.4	416	11
25	**3×2.5**	2.0	0.7	1.8	**11.3**	175	7.41	32 / 24	16.36	0.4	170	250
35, 43	**4×2.5**	2.0	0.7	1.8	**12.2**	210	7.41	32 / 24	16.36	0.4	183	2,500
46	**4×4**	2.5	0.7	1.8	**13.5**	285	4.61	42 / 31	10.18	0.6	203	130
47	**4×6**	3.1	0.7	1.8	**14.9**	375	3.08	54 / 39	6.80	0.9	224	40
42	**4×10**	3.9	0.7	1.8	**16.7**	545	1.83	75 / 52	4.04	1.4	250	1,000
48	**5×10**	3.9	0.7	1.8	**18.2**	665	1.83	75 / 52	4.04	1.4	273	800
34	**4×16**	4.8	0.7	1.8	**19.0**	800	1.15	100 / 67	2.54	2.3	285	300
36, 49	**5×16**	4.8	0.7	1.8	**20.7**	980	1.15	100 / 67	2.54	2.3	311	530
31	**3×25+1×16**	6.0	0.9 / 0.7	1.8	**22.3**	1,110	0.727	127 / 86	1.61	3.6	334	1,300
44	**4×25**	6.0	0.9	1.8	**22.8**	1,205	0.727	127 / 86	1.61	3.6	342	760
38	**3×25+2×16**	6.0	0.9 / 0.7	1.8	**24.0**	1,295	0.727	127 / 86	1.61	3.6	360	200
45	**4×35**	7.0	0.9	1.8	**25.2**	1,610	0.524	158 / 103	1.17	5.0	379	960
39	**3×35+2×16**	7.0	0.9 / 0.7	1.8	**26.1**	1,605	0.524	158 / 103	1.17	5.0	391	40
32, 40	**3×50+2×25**	8.2	1.0 / 0.9	1.9	**30.2**	2,280	0.387	192 / 122	0.87	7.1	452	2,780
33	**3×70+2×35**	9.9	1.1 / 0.9	2.1	**35.1**	3,150	0.268	246 / 151	0.61	10.0	527	130
41	**3×95+2×50**	11.6	1.1 / 1.0	2.2	**39.7**	4,235	0.193	298 / 179	0.46	13.6	595	110

Current ratings: IEC 60364-5-52, Cu/XLPE, three loaded conductors — multicore in free air (Method E, 30 °C); in ducts in ground (Method D1, 20 °C, 2.5 K·m/W); single-core in trefoil touching (Method F). ΔU calculated at 90 °C, cos φ ≈ 1 basis, X = 0.08 Ω/km (multicore) / 0.10 Ω/km (single-core trefoil). $I_k = 143 \times S$ (XLPE, 90 → 250 °C).

FAMILY B · Y32

04 ZR-YJV32 0.6/1 kV

Flame-retardant Cu/XLPE/PVC/SWA/PVC steel-wire armoured power cable

FC-TDS-Y32-2026-CF31
Items 54, 55, 56, 57, 58, 59
Total 1,260 m

Armoured version for direct burial, trenches and areas exposed to mechanical damage. As confirmed by the client, armour is round steel wire (SWA, suffix “32”) in place of the steel tape of the scheduled YJV22 designation: higher tensile strength and crush protection, and the armour acts as a protective earth path where bonded at both ends.

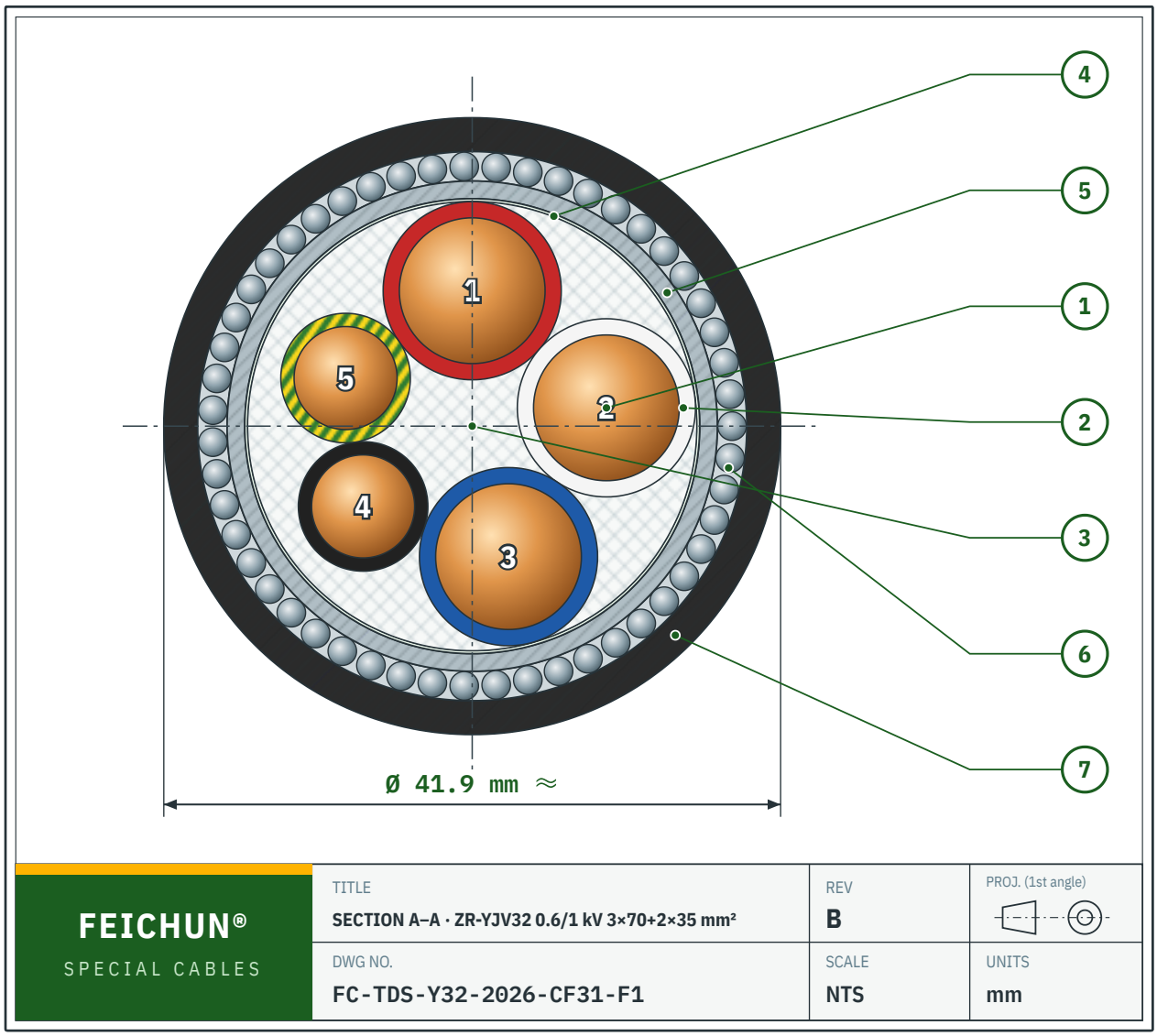


Fig. B-1 · Representative section, 3×70+2×35 mm² (item 56 — 250 m). Cores 1–5: L1 red · L2 white · L3 blue · N black · PE green/yellow.

Pos.	Element	Material / specification
1	**Conductor**	Plain annealed copper, Class 2, circular stranded/compacted
2	**Insulation**	XLPE, 90 °C; SA colours: red · white · blue · black (N) · green/yellow (PE)
3	**Filler**	Non-hygroscopic flame-retardant filler
4	**Binder**	Non-woven polyester tape
5	**Inner covering**	Extruded PVC bedding, IEC 60502-1 cl. 12
6	**Armour**	Single layer of round galvanised steel wire (SWA), Ø 1.6–2.0 mm by size, close-packed helical lay
7	**Outer sheath**	Flame-retardant PVC type ST2, black, UV-stabilised

RATED VOLTAGE U_0/U (U_m) 0.6/1 kV (1.2 kV)	**ROUTINE TEST VOLTAGE** 3.5 kV AC, 5 min
CONDUCTOR TEMPERATURE 90 °C continuous · 250 °C short circuit (≤ 5 s)	**MIN. BENDING RADIUS (INSTALLATION)** 15 × OD
FLAME RETARDANCE IEC 60332-3-24 Cat. C · IEC 60332-1-2	**DESIGN STANDARD** GB/T 12706.1-2020 (IEC 60502-1 MOD)
SA TRADE NOTE Scheduled “YJV22” (steel tape) supplied as ZR-YJV32 steel-wire armour, per client confirmation	**CERTIFICATION STATUS** Manufactured and tested to GB/T 12706.1 / IEC 60502-1; not SABS-marked (see section 12)

Client items	Size	Ins. t mm (ph / N-PE)	Inner cov. mm	SWA wires	Sheath t mm	OD ≈ mm	Mass ≈ kg/km	R_{20} max Ω/km	Amp. air / ground A	3-ph ΔU mV/A/m	I_k 1 s kA	Min. bend R mm	Qty m
59	**5×16**	0.7	1.0	37 × Ø1.6	1.8	**25.9**	1,705	1.15	100 / 67	2.54	2.3	389	240
54	**3×25+2×16**	0.9 / 0.7	1.0	43 × Ø1.6	1.9	**29.4**	2,145	0.727	127 / 86	1.61	3.6	441	80
57	**3×35+2×16**	0.9 / 0.7	1.0	47 × Ø1.6	2.0	**31.7**	2,545	0.524	158 / 103	1.17	5.0	475	280
55, 58	**3×50+2×25**	1.0 / 0.9	1.2	44 × Ø2.0	2.1	**37.0**	3,635	0.387	192 / 122	0.87	7.1	554	410
56	**3×70+2×35**	1.1 / 0.9	1.2	51 × Ø2.0	2.3	**41.9**	4,720	0.268	246 / 151	0.61	10.0	629	250

Ratings and ΔU on the same basis as Family A; armour adds < 2 % derating at these sizes, neglected. SWA wire Ø per IEC 60502-1 by diameter under armour.

FAMILY C · VFD

05 ZR-BPYJV 0.6/1 kV

Flame-retardant symmetrical VSD/VFD power cable, copper-screened

FC-TDS-VFD-2026-CF31

Items 28, 29

Total 170 m

Symmetrical 3+3 construction for motor feeders from variable-speed drives. Balanced earth conductors cancel residual common-mode voltage, reduce bearing currents, and the 360° copper screen contains drive switching noise. Screen to be terminated 360° with EMC glands at both drive and motor ends.

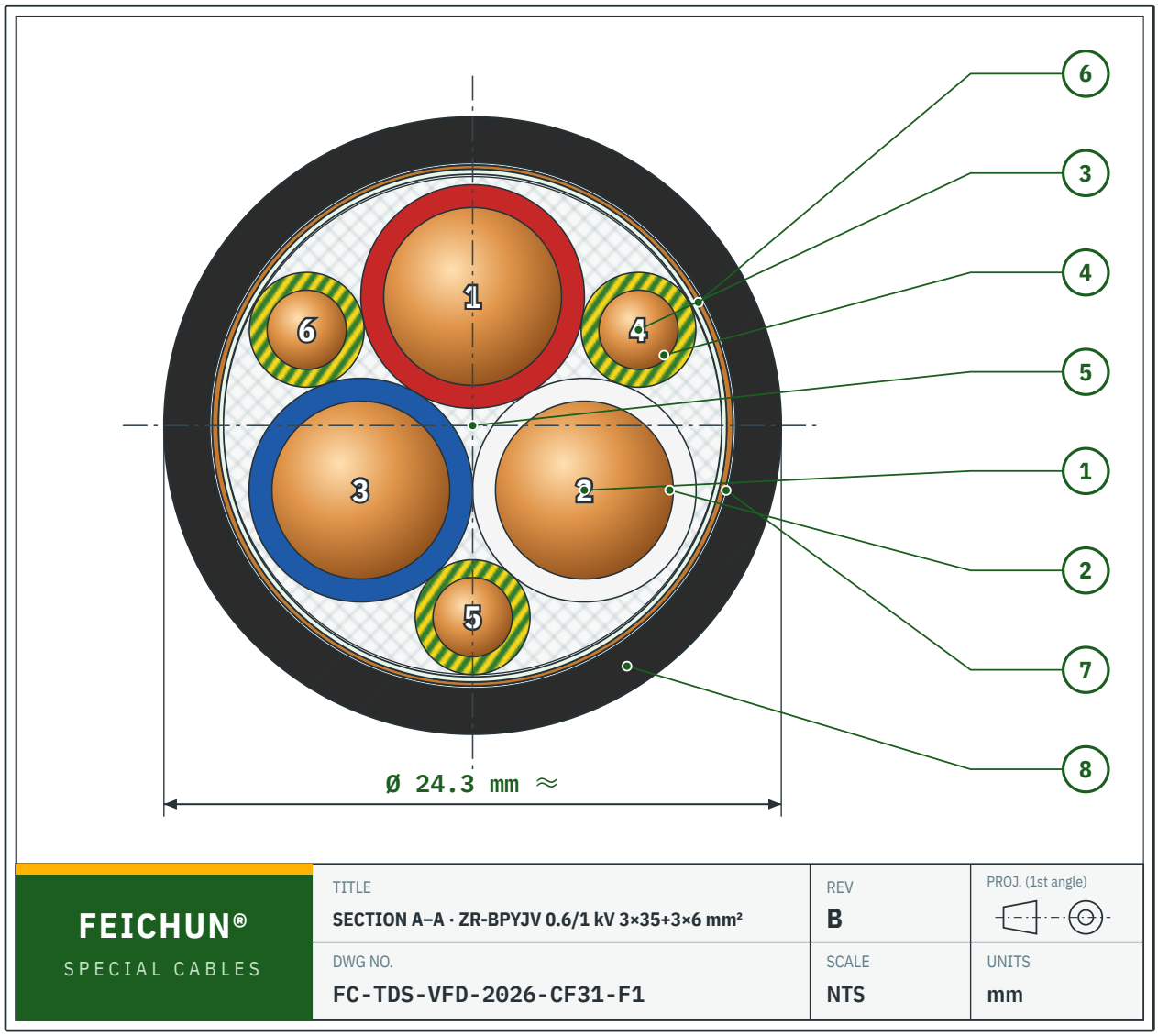


Fig. C-1 · Representative section, 3×35+3×6 mm² (item 29 — 100 m). Cores 1–3 phases, 4–6 split PE.

Pos.	Element	Material / specification
1	**Phase conductor**	Plain annealed copper, Class 2, circular stranded
2	**Phase insulation**	XLPE, low-capacitance; SA colours red · white · blue
3	**Earth conductors**	3 symmetrical PE conductors (total = PE/3 each), Class 2 copper
4	**Earth insulation**	XLPE, green/yellow, laid in outer interstices
5	**Filler**	Non-hygroscopic flame-retardant filler, round lay-up
6	**Overall screen**	Copper tape 0.10 mm, helically overlapped ≥ 20 %; Cu-wire braid option for EMC class C2
7	**Separator**	Polyester tape
8	**Outer sheath**	Flame-retardant PVC type ST2, black

RATED VOLTAGE U_0/U (U_m) 0.6/1 kV (1.2 kV)	**ROUTINE TEST VOLTAGE** 3.5 kV AC, 5 min
CONDUCTOR TEMPERATURE 90 °C continuous · 250 °C short circuit	**SCREEN TRANSFER IMPEDANCE** ≤ 100 mΩ/m at 30 MHz (tape); ≤ 10 mΩ/m with braid option
MIN. BENDING RADIUS 15 × OD (installation), 10 × OD final position	**FLAME RETARDANCE** IEC 60332-3-24 Cat. C · IEC 60332-1-2
DESIGN STANDARD GB/T 12706.1-2020; EMC practice per IEC 61800-3 / IEC 60034-25	**SA TRADE TERM** VSD cable (screened, symmetrical earth)

Client items	Size	Ins. t mm (ph / PE)	Cu screen mm	Sheath t mm	OD ≈ mm	Mass ≈ kg/km	R_{20} max Ω/km (ph / PE)	Amp. air / ground A	I_k 1 s kA	Min. bend R mm	Qty m
28	**3×25+3×4**	0.9 / 0.7	0.10 overlap ≥ 20 %	1.8	**21.9**	1,125	0.727 / 4.61	127 / 86	3.6	329	70
29	**3×35+3×6**	0.9 / 0.7	0.10 overlap ≥ 20 %	1.8	**24.3**	1,500	0.524 / 3.08	158 / 103	5.0	364	100

FAMILY D · MVX

06 ZR-YJV / ZR-YJV32 6/6 kV · 8.7/15 kV

Flame-retardant Cu/XLPE MV power cable, Cu-tape screened

FC-TDS-MVX-2026-CF31

Items 50, 51, 52, 53, 60, 61, 62

Total 1,850 m

Medium-voltage feeders. 6/6 kV (U_m 7.2 kV) suits 6.6 kV systems; 8.7/15 kV (U_m 17.5 kV) suits 11 kV systems including those with earth-fault clearance > 1 min (category C), giving margin over the 6.35/11 kV grade. Triple extrusion with dry curing keeps the semicon/XLPE interfaces void-free and partial discharge below 10 pC.

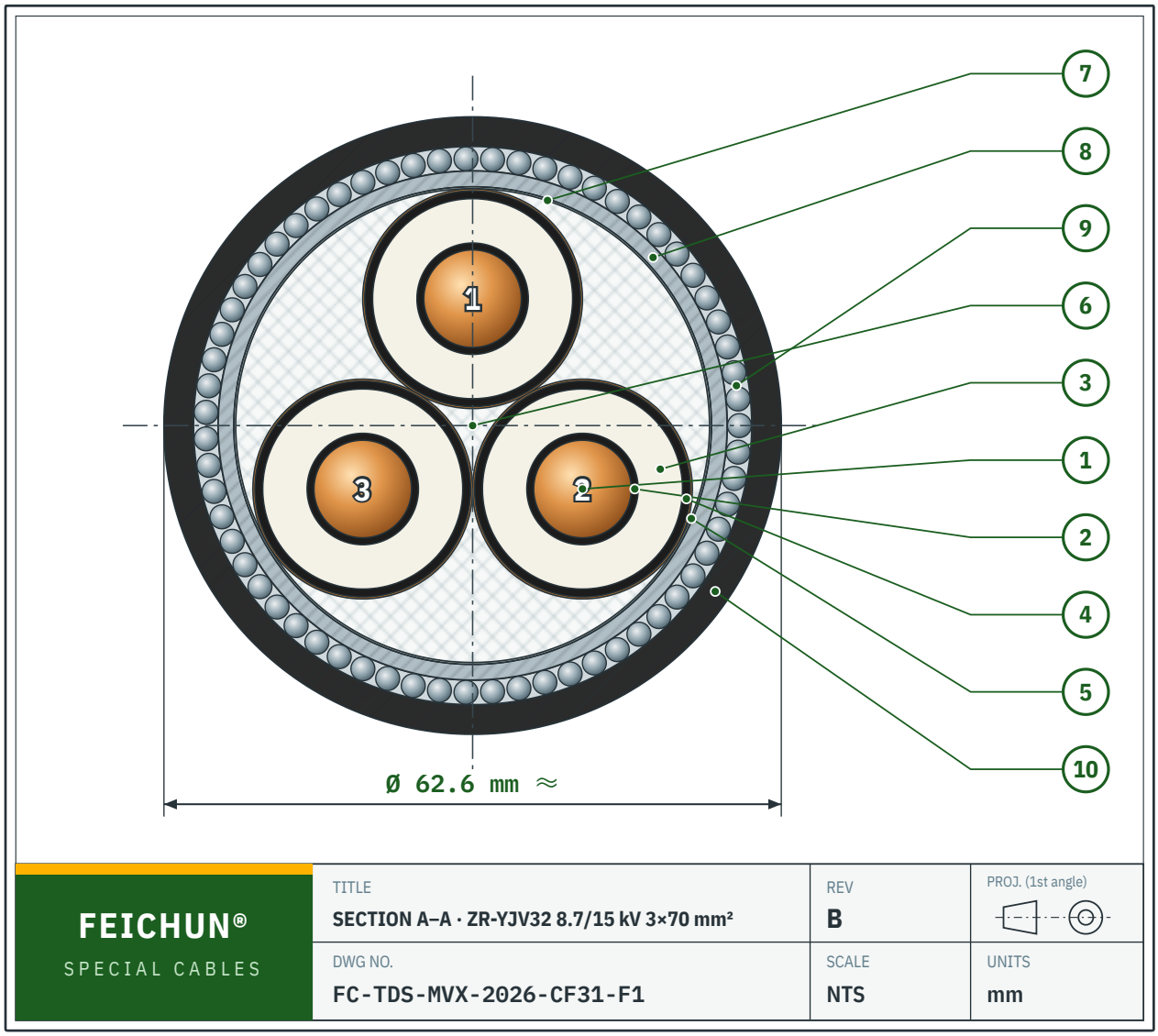


Fig. D-1 · Representative section, ZR-YJV32 8.7/15 kV 3×70 mm² (item 62 — 400 m). Cores 1–3 = phases L1 · L2 · L3 (red · white · blue marker tapes).

Pos.	Element	Material / specification
1	**Conductor**	Plain annealed copper, Class 2, circular compacted, longitudinally dry
2	**Conductor screen**	Extruded semi-conducting compound
3	**Insulation**	XLPE, dry-cured, triple-extruded (CCV); 3.4 mm (6/6 kV) · 4.5 mm (8.7/15 kV)
4	**Insulation screen**	Extruded semi-conducting compound, strippable (cold-strip)
5	**Metallic screen**	Annealed copper tape 0.10 mm, helically overlapped ≥ 15 %, per core
6	**Filler**	Non-hygroscopic flame-retardant PP filler
7	**Binder**	Non-woven tape
8	**Inner covering**	Extruded PVC (YJV32) — wrapped tape bedding for YJV
9	**Armour**	Single layer galvanised round steel wire, Ø 2.5 mm (YJV32 only)
10	**Outer sheath**	Flame-retardant PVC type ST2, red or black, embossed

RATED VOLTAGE 6/6 kV (U_m 7.2 kV) · 8.7/15 kV (U_m 17.5 kV)	**ROUTINE AC TEST** 6/6 kV: 21 kV, 5 min · 8.7/15 kV: 30.5 kV, 5 min (3.5 U_0)
PARTIAL DISCHARGE ≤ 10 pC at 1.73 U_0 (routine, each length)	**LIGHTNING IMPULSE (TYPE)** 6/6 kV: 75 kV · 8.7/15 kV: 95 kV
CONDUCTOR TEMPERATURE 90 °C continuous · 250 °C short circuit (≤ 5 s)	**MIN. BENDING RADIUS** 15 × OD (3-core)
DESIGN STANDARD GB/T 12706.2/.3-2020 (IEC 60502-2 MOD)	**CERTIFICATION STATUS** Manufactured and tested to GB/T 12706.2/.3 / IEC 60502-2; not SABS-marked (see section 12)

Client items	Type	U_0/U	Size	Ins. t mm	Inner cov. mm / SWA wires	Sheath t mm	OD ≈ mm	Mass ≈ kg/km	R_{20} max Ω/km	R_{90} AC ≈ Ω/km	C ≈ µF/km	X ≈ Ω/km	Amp. buried / air A	I_t 1 s kA	Min. bend R mm	Qty m
50	ZR-YJV	6/6 kV	**3×95**	3.4	—	2.7	**52.8**	4,525	0.193	0.249	0.330	0.099	302 / 335	13.6	792	200
60	ZR-YJV32	6/6 kV	**3×95**	3.4	1.6 / 62×Ø2.5	2.9	**61.4**	7,495	0.193	0.249	0.330	0.099	302 / 335	13.6	921	1,000
53	ZR-YJV	8.7/15 kV	**3×50**	4.5	—	2.6	**50.0**	3,230	0.387	0.498	0.210	0.117	202 / 218	7.1	750	25
51	ZR-YJV	8.7/15 kV	**3×120**	4.5	—	2.9	**60.9**	5,815	0.153	0.201	0.286	0.101	337 / 376	17.2	914	50
52	ZR-YJV	8.7/15 kV	**3×240**	4.5	—	3.3	**73.4**	9,935	0.0754	0.102	0.371	0.092	482 / 552	34.3	1,100	5
61	ZR-YJV32	8.7/15 kV	**3×50**	4.5	1.4 / 58×Ø2.5	2.8	**58.2**	5,965	0.387	0.498	0.210	0.117	202 / 218	7.1	873	170
62	ZR-YJV32	8.7/15 kV	**3×70**	4.5	1.6 / 63×Ø2.5	3.0	**62.6**	7,050	0.268	0.345	0.237	0.110	247 / 271	10.0	940	400

Current ratings indicative from IEC 60502-2 Annex B reference conditions: one 3-core cable direct buried at 0.8 m, 20 °C ground, 1.5 K·m/W; in free air 30 °C, shaded. Screen short-circuit capability (copper tape) is sized to the earth-fault level on request — a copper wire screen (e.g. 25 mm²) can be fitted where the network earth-fault current demands it.

FAMILY E · KVP

07 ZR-KVVP 450/750 V

Flame-retardant PVC multicore control cable, copper-braid screened

FC-TDS-KVP-2026-CF31

Items 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24

Total 15,410 m

Instrumentation, interlock and motor-control circuits between MCCs, field devices and PLC panels. The copper-wire braid gives low transfer impedance against drive and switching interference; earth the braid at the panel end (or both ends for HF noise, per site EMC philosophy).

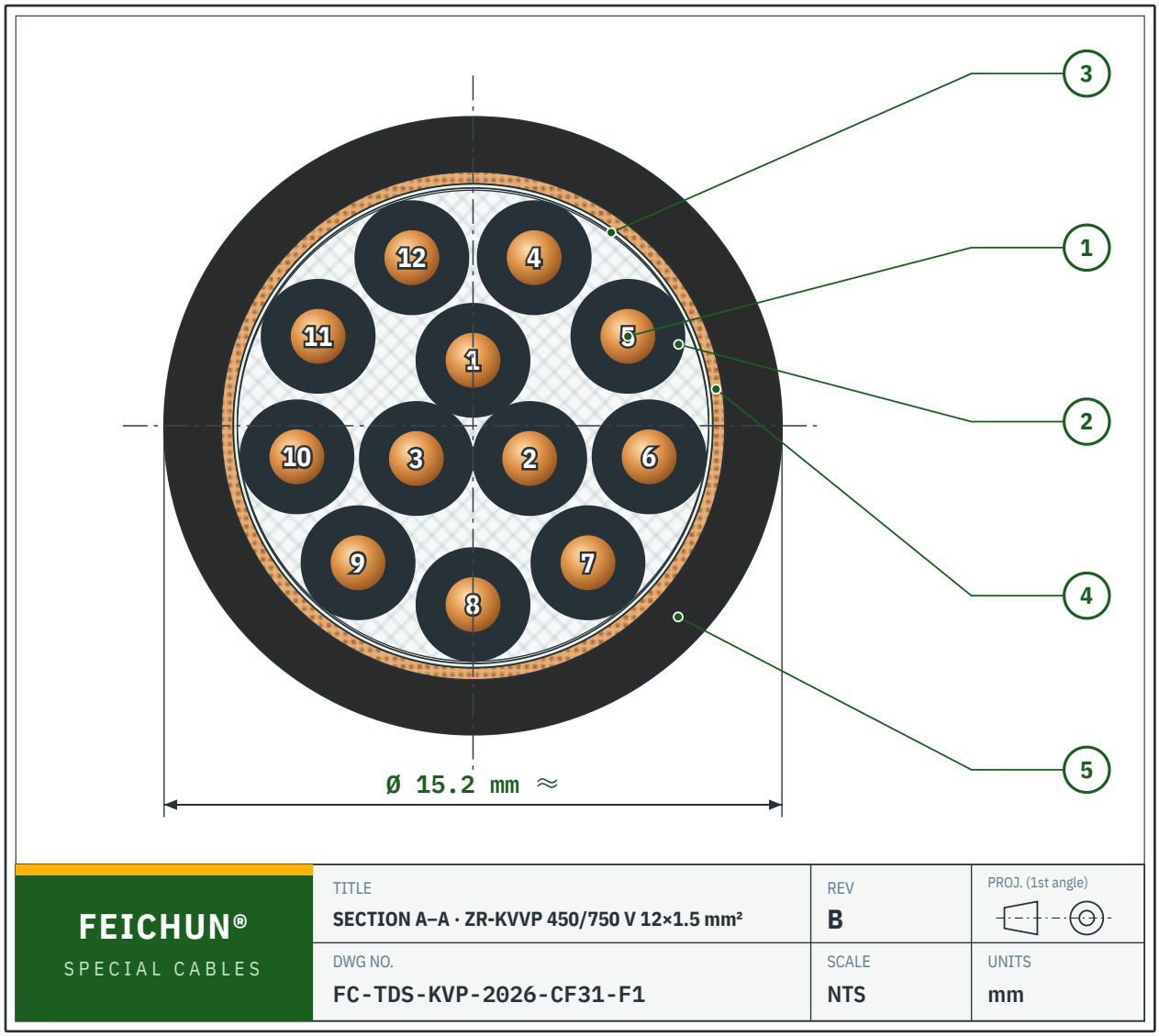


Fig. E-1 · Representative section, 12×1.5 mm² (items 11, 17 — 2,160 m). Cores numbered 1–12 as printed.

Pos.	Element	Material / specification
1	**Conductor**	Plain annealed copper, Class 1 solid (Class 2 stranded on request)
2	**Insulation**	PVC type PVC/C, 70 °C; black with white printed numerals 1…n + GNYE option
3	**Binder**	Polyester tape over cabled cores (fillers where required)
4	**Screen**	Plain annealed copper wire braid, Ø 0.15 mm, optical coverage ≥ 80 %
5	**Outer sheath**	Flame-retardant PVC type ST1, black

RATED VOLTAGE U_0/U	ROUTINE TEST VOLTAGE
450/750 V	3.0 kV AC, 5 min
CONDUCTOR TEMPERATURE	**INSULATION RESISTANCE**
70 °C continuous · 160 °C short circuit	≥ 0.011 MΩ·km (1.5 mm²) / ≥ 0.010 MΩ·km (2.5 mm²) at 70 °C
MIN. BENDING RADIUS	**FLAME RETARDANCE**
10 × OD (installation)	IEC 60332-3-24 Cat. C · IEC 60332-1-2
DESIGN STANDARD	**SA TRADE TERM**
GB/T 9330-2020 (KVVP) · conductors IEC 60228	Screened multicore control cable (PVC/braid/PVC)

Client items	Size	Cond. Ø mm	Ins. t mm	Braid	Sheath t mm	OD ≈ mm	Mass ≈ kg/km	R_{20} max Ω/km	Amp. air (3 loaded) A	Min. bend R mm	Qty m
12, 19	**2×1.5**	1.38	0.7	0.15 wire, ≥ 80 %	1.2	**8.8**	135	12.1	18	88	520
14, 22	**4×1.5**	1.38	0.7	0.15 wire, ≥ 80 %	1.3	**10.1**	190	12.1	18	101	3,450
16	**10×1.5**	1.38	0.7	0.15 wire, ≥ 80 %	1.4	**14.7**	385	12.1	18	147	750
11, 17	**12×1.5**	1.38	0.7	0.15 wire, ≥ 80 %	1.4	**15.2**	430	12.1	18	152	2,160
13, 20	**3×2.5**	1.78	0.8	0.15 wire, ≥ 80 %	1.3	**10.7**	215	7.41	25	107	340
15, 23	**4×2.5**	1.78	0.8	0.15 wire, ≥ 80 %	1.3	**11.6**	260	7.41	25	116	6,140
24	**6×2.5**	1.78	0.8	0.15 wire, ≥ 80 %	1.4	**13.7**	360	7.41	25	137	1,050
18	**12×2.5**	1.78	0.8	0.15 wire, ≥ 80 %	1.5	**17.8**	620	7.41	25	178	1,000

FAMILY F · RNF

08 FC-FLX™ H07RN-F 450/750 V

Heavy-duty rubber flexible cable (cabtyre)

FC-TDS-RNF-2026-CF31

Items 7, 8, 9, 10

Total 3,180 m

The “cabtyre” lines of the schedule. Offered as harmonised H07RN-F heavy-duty rubber flexible cable — FeiChun’s core competence — for portable equipment, temporary site supplies, pumps and outdoor/wet locations where PVC flex would stiffen or crack. The client asked for “whichever works best and is cheapest”: rubber H07RN-F is offered as the best-performing option; PVC H07VV-F (450/750 V) is the lower-cost alternative for dry, indoor, light-duty use and can be quoted in parallel.

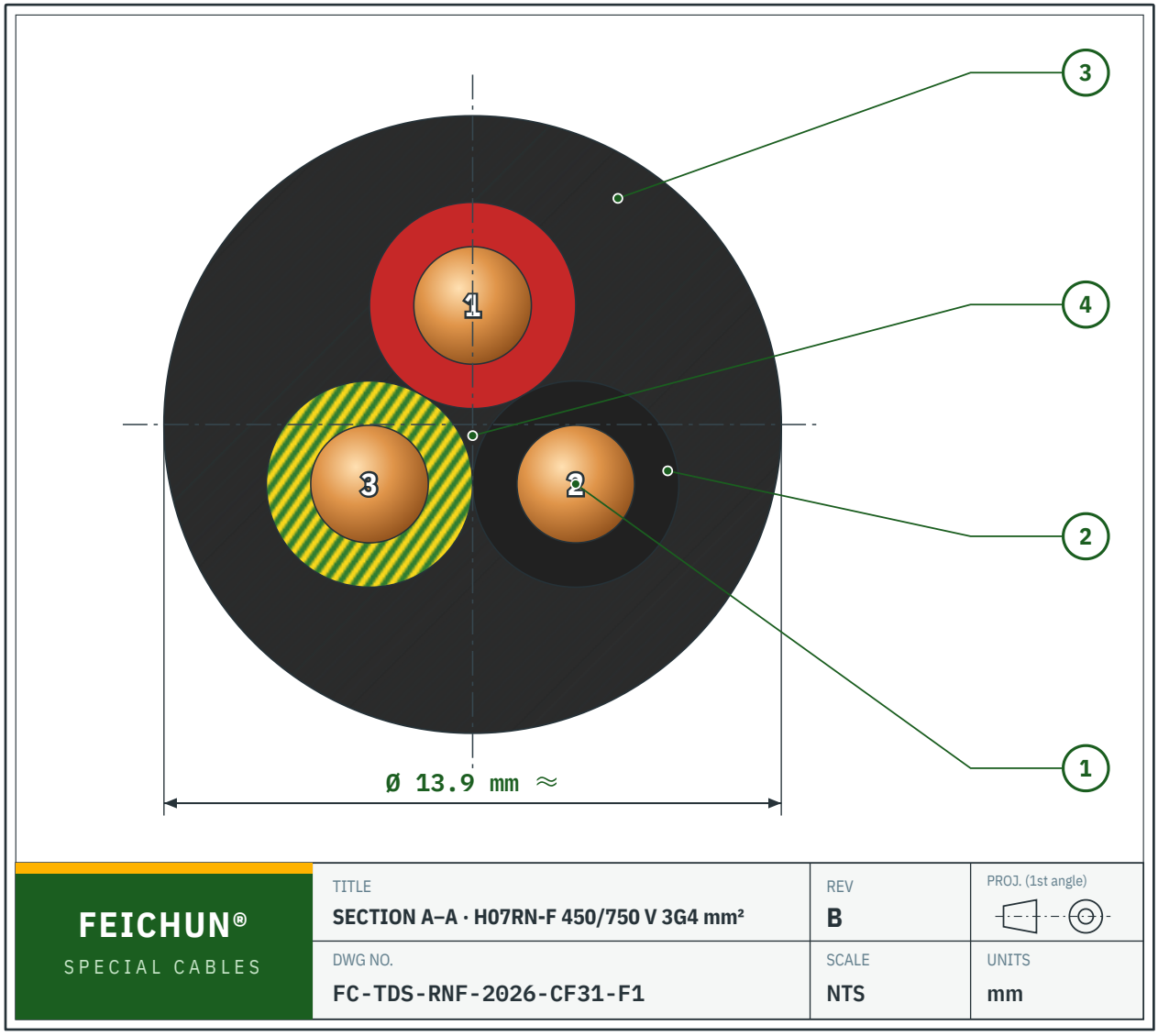


Fig. F-1 · Representative section, 3G4 mm² (items 9, 10 — 780 m). Cores 1 = L (red), 2 = N (black), 3 = PE (green/yellow).

Pos.	Element	Material / specification
1	**Conductor**	Plain annealed copper, IEC 60228 Class 5 fine-stranded
2	**Insulation**	Rubber compound EI4 (EPR), 90 °C rated; red (L) · black (N) · green/yellow (PE) — colours to be confirmed
3	**Outer sheath**	Heavy-duty polychloroprene EM2, black — oil, ozone, UV and weather resistant
4	**Interstices**	Filled by sheath compound (extruded-filling); separator tape where required

RATED VOLTAGE U_0/U 450/750 V (fixed protected: 0.6/1 kV)	**ROUTINE TEST VOLTAGE** 2.5 kV AC, 5 min
CONDUCTOR TEMPERATURE 60 °C continuous (EN 50525-2-21 rating) · 200 °C short circuit	**TEMPERATURE RANGE** Flexing –25 °C … +60 °C · fixed –40 °C
MIN. BENDING RADIUS Fixed 4 × OD · flexing 6 × OD	**FLAME RETARDANCE** IEC 60332-1-2
DESIGN STANDARD EN 50525-2-21 · IEC 60245-4 (60245 IEC 66)	**RESISTANCE** Oil EN 60811-404 · ozone EN 60811-403 · UV
CERTIFICATION STATUS Manufactured and tested to EN 50525-2-21 / IEC 60245-4; not SABS-marked (see section 12)	

Client items	Size	Conductor	Ins. t mm	Sheath t mm	OD ≈ mm (EN range)	Mass ≈ kg/km	R_{20} max Ω/km	Amp. air (2 loaded) A	Bend R fixed / flex mm	Qty m
7, 8	**3G2.5**	Class 5	0.9	1.8	**12.1** (10.9–14.0)	225	7.98	30	48 / 73	2,400
9, 10	**3G4**	Class 5	1.0	1.9	**13.9** (12.7–16.2)	310	4.95	41	56 / 84	780

Ampacity per VDE 0298-4 Table 11, single cable in free air, 30 °C.

FAMILY G · BCE

09 FC-BCE bare copper 1×150 · 1×70 mm²

Bare stranded copper earth / lightning-protection conductor

FC-TDS-BCE-2026-CF31
Items 1, 2, 3, 4, 5, 6, 26
Total 5,350 m

Bare copper earth conductor for substation earth grids, equipotential bonding rings, structure earthing and the lightning-protection down-conductor/earth-termination line (item 26). Items 1–4, scheduled as “anti-theft earthing conductor”, are confirmed by the client as bare copper (item 4: 1×150 mm²), so the copper-clad-steel option has been withdrawn. Concentric-lay stranding keeps the conductor round and stable when bent around foundations and exothermically welded.

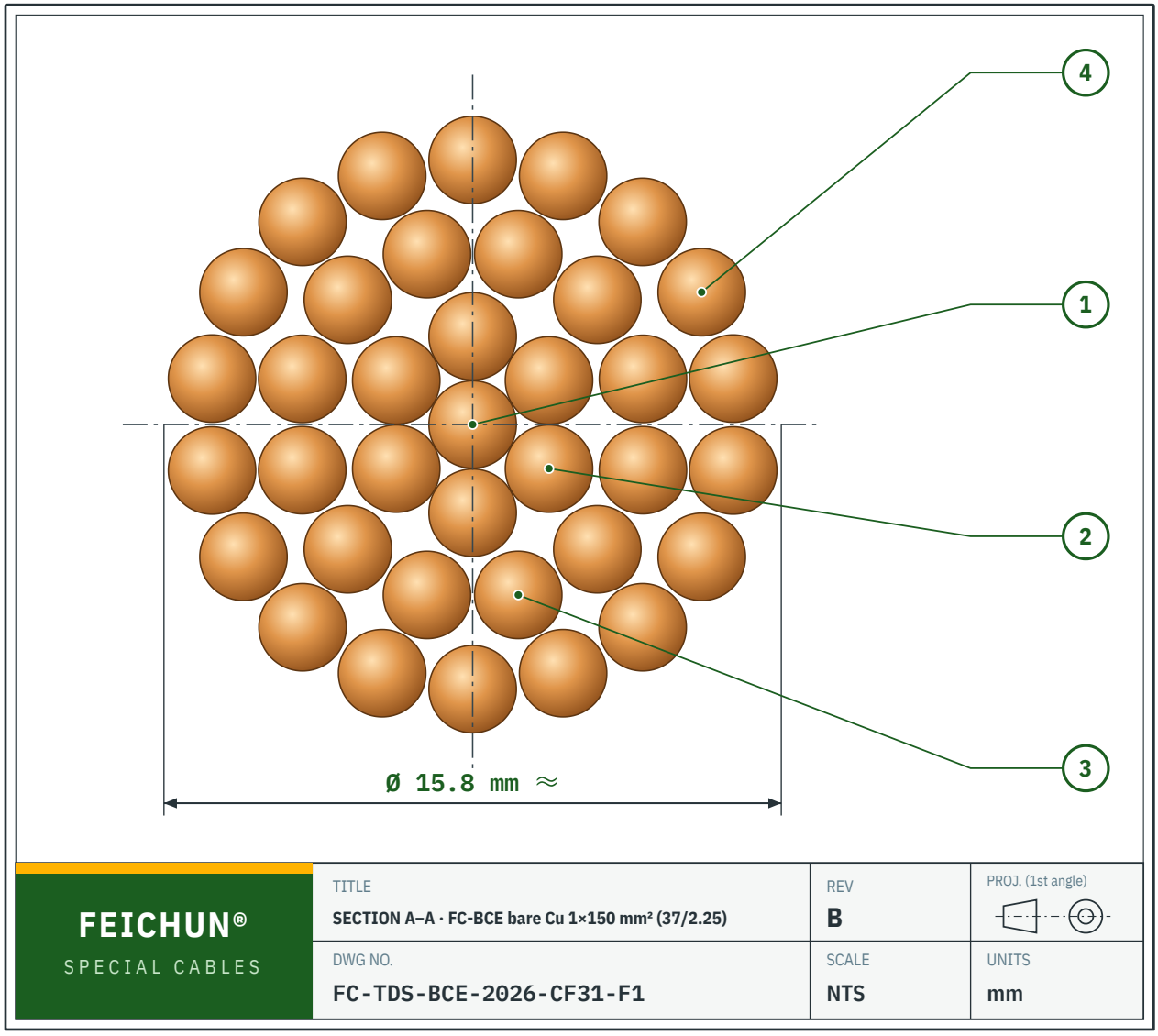


Fig. G-1 · Section, bare Cu 1×150 mm², 37/2.25 mm concentric lay (items 1, 3, 4, 5, 6, 26). The 1×70 mm² size is 19/2.14 mm (item 2).

Pos.	Element	Material / specification
1	**Centre wire**	Annealed copper, Ø 2.25 mm
2	**1st layer**	6 × Ø 2.25 mm, left-hand lay
3	**2nd layer**	12 × Ø 2.25 mm, right-hand lay
4	**3rd layer**	18 × Ø 2.25 mm, right-hand (outer) lay

MATERIAL
Annealed copper (TR) ≥ 99.9 % Cu; hard-drawn (TJ) on request

SHORT-TIME CURRENT 1 S
1×150: 23.9 kA · 1×70: 11.1 kA (k = 159, 200 °C) — IEC 60364-5-54

TINNED OPTION
Tinned wires for corrosive soils / coastal sites

DESIGN STANDARD
IEC 60228 / GB/T 3956 Class 2 · wires GB/T 3953

LIGHTNING PROTECTION
Exceeds IEC 62305-3 minimum 50 mm² Cu for earth-termination

THEFT DETERRENCE
Not applicable to bare copper — site security or marking by the installer

DELIVERY
Steel-wooden drums, lengths to project schedule

Client items	Size	Construction	Calc. area mm²	OD ≈ mm	Mass ≈ kg/km	R_{20} max Ω/km	Breaking load ≈ kN	Qty m
1, 3, 4, 5, 6, 26	**1×150**	37 / 2.25 mm	147.1	15.75	1,355	0.124	≥ 29 (annealed) · ≥ 52 (hard-drawn)	5,050
2	**1×70**	19 / 2.14 mm	68.3	10.70	620	0.268	≥ 13 (annealed) · ≥ 24 (hard-drawn)	300

10 Testing & quality assurance

ISO 9001 QMS

Test	Category	Families	Requirement	Reference
Conductor DC resistance	Routine	All	≤ max. value at 20 °C as tabulated	IEC 60228 · GB/T 3048.4
AC voltage test	Routine	A B C	3.5 kV, 5 min — no breakdown	IEC 60502-1 cl. 15.3
AC voltage test	Routine	D	21 kV (6/6 kV) · 30.5 kV (8.7/15 kV), 5 min	IEC 60502-2 cl. 16.3
Partial discharge	Routine	D	≤ 10 pC at 1.73 U_0	IEC 60885-3
AC voltage test	Routine	E · F	3.0 kV (KVVP) · 2.5 kV (H07RN-F), 5 min	GB/T 9330 · EN 50525-2-21
Dimensional check (insulation, sheath, OD)	Sample	All	Min. thickness ≥ nominal × 0.9 − 0.1 mm	IEC 60811-201/-202/-203
Hot-set test (XLPE)	Sample	A B C D	Elongation under load ≤ 175 %, permanent ≤ 15 %	IEC 60811-507
Tensile / elongation, ageing	Type	All insulated	Per compound type (XLPE, PVC/C, ST1/ST2, EI4, EM2)	IEC 60811-501 / -401
Flame propagation, bunched	Type	A–E	Category C, char ≤ 2.5 m	IEC 60332-3-24 · GB/T 18380.33
Flame propagation, single cable	Type	A–F	Char end ≥ 50 mm from upper clamp	IEC 60332-1-2
Lightning impulse + heating cycle	Type	D	75 kV / 95 kV, 10 + 10 impulses	IEC 60502-2 cl. 18
Armour wire diameter, zinc coating	Sample	B D	Per armour requirements	IEC 60502-1 / -2

Routine tests are performed on every delivery length and reported in FeiChun in-house laboratory test reports issued with the shipment. Independent third-party witness or testing can be arranged at the buyer's cost.

11 Core identification, marking & packing

Construction	Core colours (client standard)	Status
LV 4-core, 3+1	Red · White · Blue · Black (N)	Client confirmed
LV 5-core, 3+2	Red · White · Blue · Black (N) · Green/yellow (PE)	Client confirmed
VSD 3+3	Red · White · Blue · 3 × green/yellow	Client confirmed
3-core (3×2.5 lighting, cabtyre)	Red (L) · Black (N) · Green/yellow (PE)	Assumed — to confirm
Single-core	Black (red / white / blue on request)	Default
MV 3-core	Core marker tapes red · white · blue	Default
KVVP control	Black, white numerals 1…n (+ green/yellow earth core on request)	Default

Sheath marking (embossed or ink-jet, ≤ 1 m interval):
`FEICHUN CABLES · ZR-YJV32 0.6/1kV 3×70+2×35mm² · IEC 60502-1 · 2026 · 0001m`
Client tag, purchase-order number or SA-style descriptors can be added to the legend at no change in lead time.

Packing — non-returnable steel-wooden drums (fumigated, ISPM 15), cable ends sealed with heat-shrink caps; drum label with item no., type, size, length, gross/net mass and drum no. Delivery lengths per schedule line; mixed lines consolidated on shared drums where practical.

12 Client confirmations, certification & open points

Rev B

Rev B applies the client's written answers to Rev A. The remaining questions — chiefly whether South African certification is required — are listed last so the quotation can be completed accurately.

CLIENT CONFIRMATIONS APPLIED IN REV B

Item(s)	Rev A open point	Client answer / action	Status
4	Size not legible in schedule	Bare copper earth conductor, **1×150 mm²**	Applied
1–4	Anti-theft earthing conductor	**Bare copper** required — copper-clad-steel offer withdrawn	Applied
7, 18, 60	Quantity not stated	**1,000 m each**	Applied
21	Missing from item sequence	No line missing — client typing error (61 lines)	Closed
7–10	Cabtyre: rubber or PVC	Client: "whichever works best and is cheapest" — rubber H07RN-F offered; PVC H07VV-F available as lower-cost alternative	Applied

Item(s)	Rev A open point	Client answer / action	Status
25	Lighting cable voltage	0.6/1 kV 3×2.5 mm² confirmed	Closed
54–62	Armoured YJV22 (steel tape)	**Steel-wire armour** required — supplied as ZR-YJV32 (LV items 54–59, MV items 60–62)	Applied
All LV	Core colours	South African standard: **red · white · blue, black neutral**	Applied

POINTS STILL OPEN

Topic	Question	Status
Certification	Is SABS / SANS certification (or NRCS approval) mandatory for this cable supply? FeiChun types are Chinese-standard designs (GB/T, IEC 60502) with in-house test reports; no SABS mark is held for them.	OPEN
Application	Own project use or tender submission — and any specified compliance requirement (end client or mine specification)	OPEN
Delivery	Destination in South Africa; required delivery length per drum	OPEN
3-core colours	Items 7–10 and 25: assumed red (L) · black (N) · green/yellow (PE). Confirm, or state if three phases red · white · blue	OPEN

13 Contact & approval

FEICHUN SPECIAL CABLES — TECHNICAL SALES

Anhui FeiChun Special Cable Co., Ltd. (安徽飞纯特种电缆有限公司)
No. 1 Park, Private Science & Technology Park, Hefei ETDZ, Anhui, China
Technical: Tech@feichuncables.com
Mining & heavy industry: mining@feichuncables.com
Zihao Yang: zihao.yang@feichuncables.com
WhatsApp: +86 138 5512 3218
Web: www.feichuncables.com

Prepared — FeiChun Technical Sales

Checked — FeiChun Technical Dept.

Client technical review

Client approval / date

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