FEICHUN CABLE | YXC7Z1Y2Z1 20.3/35 kV | N2XSHR(AL)H | 1 CORE | Cu / XLPE / Cu SCREEN | LSZH / ROUND AL WIRES / LSZH | NATIONAL TSEK | IEC 60332-3 CAT. C

Feichun YXC7Z1Y2Z1 20.3/35 kV — Single-Core XLPE Cable with LSZH Sheaths and Round Aluminium-Wire Armour

A full-English engineering guide to the supplied YXC7Z1Y2Z1 20.3/35 kV record. The construction is copper conductor, semiconducting XLPE screens, XLPE insulation, crape tape, concentric copper screen, LSZH separation sheath, single-layer round aluminium wires and LSZH outer sheath. The article preserves all three supplied product references, including the two separate 240 mm² rows.

Uo/U: 20.3 / 35 kV | 95 and 240 mm² rows | Class 2 conductor | 8.5 mm insulation | 12 (xD) laying factor | -20 ... 90 °C | 90 °C service / 250 °C fault

Voltage class
20.3/35 kV
Uo/U notation supplied by the source.

Product rows
95 / 240
Two conductor areas; the 240 mm² reference appears twice.

Armour
ROUND AL WIRES
Single layer under LSZH protection.

Fire reference
CAT. C
IEC 60332-3-24 Cat. C; no CPR class is added.

Contents

1. Engineering position
2. Designation and construction logic
3. Standard and evidence review
4. Complete source specification
5. Technical matrix
6. Published-data limitations
7. Derived installation checks
8. Layer-by-layer cross-section
9. Electrical, screen and armour system
10. Thermal, voltage-drop and short-circuit design
11. Fire and LSZH performance boundary
12. Fixed-route applications
13. Handling and termination
14. Selection comparison
15. Failure mode analysis
16. Feichun certification scope
17. Source and revision audit

1. Engineering position: a high-voltage single-core LSZH armoured cable

YXC7Z1Y2Z1 20.3/35 kV is a single-core, Class 2 copper-conductor XLPE cable with concentric copper screen, LSZH separation and outer sheaths, and single-layer round aluminium-wire armour. The supplied application covers energy networks with sudden load changes in residential or industrial areas, underground or in ducts.

High-voltage dielectric platform
At 20.3/35 kV, conductor screen, XLPE insulation and insulation screen must be coordinated with the exact termination, joint, test and earthing system.

Screen and armour distinction
The concentric copper screen is an electrical and fault-path component. The round aluminium wires are mechanical armour. Their continuity and bonding duties must be designed separately.

LSZH route platform
LSZH separation and outer sheaths support low-smoke, halogen-related project objectives, but the supplied record only states IEC 60332-3 Cat. C and does not provide a CPR class.

Data discipline
The matrix contains 95 mm² and two 240 mm² reference rows. No row is collapsed, and no missing screen-fault value is invented.

Engineering boundary: 12 (xD) is a laying factor. It does not qualify repeated flexing, torsion, reeling, festoon or drag-chain service.

2. Designation and construction logic

Construction sequence

Layer / field	Supplied construction	Engineering consequence
YXC7Z1Y2Z1	National title for 20.3/35 kV single-core armoured cable.	Use the complete title and exact product reference.
N2XSHR(AL)H	Printed international designation.	Retain as a document cross-reference; do not infer beyond the construction.
Cu / XLPE	Copper conductor, semiconducting conductor screen and XLPE insulation.	Coordinate electric-field control and MV accessories.
Screen	Semiconducting insulation screen, crape tape, concentric copper wires and copper tape.	Verify continuity, bonding and fault-duty path.
LSZH / Al / LSZH	LSZH separation sheath, round aluminium wires, LSZH outer sheath.	Keep sheath, armour and fire evidence configuration-specific.

3. Standard and evidence review

Standards and evidence

Reference	Role in this article	Boundary
National TSEK	Product standard printed in the supplied record.	Confirm exact edition, certificate and conformity file.
IEC 60332-3-24 Cat. C	Source-listed flame-retardant reference.	Not a CPR class or complete fire strategy.
IEC 60502-2	Related international MV engineering context.	Not substituted for the supplied National TSEK reference.
LSZH	Supplied for separation and outer sheaths.	Do not infer s/d/a subclasses or DoP without product-specific evidence.

4. Complete source specification

Specification field	Reference value	Engineering interpretation	Evidence status
Family title	YXC7Z1Y2Z1 20.3/35 kV	National product title in the supplied record.	Supplied source
Printed international designation	N2XSHR(AL)H	Retained separately as printed in the supplied construction record; do not infer beyond the controlled construction.	Supplied source
Product description	20,3/35 kV XLPE insulated single core armoured cables with copper conductor	Single-core copper-conductor XLPE cable with concentric copper screen, LSZH separation sheath, round aluminium-wire armour and LSZH outer sheath.	Supplied source
National standard	TSEK	The source lists National TSEK. No automatic IEC 60502-2 conformity is claimed.	Supplied source
Application	These are cables with low dielectric losses used in energy network with sudden load changes. Laid in residental or industrial areas, underground or in ducts.	Fixed energy-network application; verify system voltage, route, thermal, mechanical, fire and accessory conditions.	Supplied source
Conductor material	Copper	Phase conductor material stated by the source.	Supplied source
Conductor flexibility	Class 2	Class 2 circular stranded construction; not a continuous-flex, reeling or drag-chain rating.	Supplied source
Type of conductor	Circular, stranded, class 2	Conductor geometry stated by the source.	Supplied source
Number of cores	1	Single-core cable unit; phase formation and screen/armour bonding are installation-level decisions.	Supplied source
Published product rows	95 mm²; 240 mm²; 240 mm²	The 240 mm² row appears with three Nexans references in the supplied matrix; all are preserved.	Supplied source matrix
Rated Voltage Uo/U (Um)	20.3 / 35 kV	High-voltage accessory, insulation coordination and protection settings must match this class.	Supplied source
Average insulation thickness	8.5 mm	Published dimensional characteristic.	Supplied source
Operating temperature, range	-20 ... 90 °C	Apply actual ambient, formation, soil, duct and accessory limits.	Supplied source
Short-circuit max. conductor temperature	250 °C	Use with conductor I^2t, protection clearing time, screen/armour design and accessories.	Supplied source
Bending factor when laying	12 (xD)	Laying factor only; it does not establish repeated dynamic bending.	Supplied source
Max. conductor temperature in service	90 °C	Continuous conductor service limit.	Supplied source
Flame retardant	IEC 60332-3-24 Cat. C	Bunched-cable vertical flame-spread reference; not itself a CPR class.	Supplied source
Conductor screen	Semi-conducting compound (XLPE)	Controls the electric-field transition at the copper/XLPE interface.	Supplied construction
Insulation	XLPE	Primary extruded solid dielectric for 20.3/35 kV service.	Supplied construction
Insulation screen	Semi-conducting compound (XLPE)	Controls the outer electric-field interface.	Supplied construction
Semi-conducting tape	Crape tape	Source wording retained exactly.	Supplied construction

Specification field	Reference value	Engineering interpretation	Evidence status
Metallic screen	Concentric / Copper wires + copper tape	Screen continuity, bonding and fault duty require a project earthing design.	Supplied construction
Separation sheath	LSZH	Separates the metallic screen from the aluminium-wire armour.	Supplied construction
Armour	Round aluminium wires	Single layer of aluminium wires; exact lay and bonding remain drawing-controlled.	Supplied construction
Outer sheath	LSZH	Low-smoke, halogen-free sheath claim is retained from the source construction.	Supplied construction
Source page 1	Generated 8/4/26 — www.nexans.com.tr — Page 1 / 2	Preserved source metadata.	Supplied metadata
Source page 2	YXC7Z1Y2Z1 20.3/35 kV — Generated 8/4/26 — www.nexans.com.tr — Page 2 / 2	Preserved source metadata.	Supplied metadata
Source disclaimer	All drawings, designs, specifications, plans and particulars of weights, size and dimensions contained in the technical or commercial documentation of Nexans is indicative only and shall not be binding on Nexans or be treated as constituting a representation on the part of Nexans.	Use the controlled Feichun release for procurement and installation decisions.	Supplied metadata

5. Complete technical matrix — YXC7Z1Y2Z1 20.3/35 kV

The source provides two conductor areas and three product references. The duplicate 240 mm² rows are not collapsed because the supplied references differ.

Cross section [mm²]	Nom. outer diam. [mm]	Approx. weight [kg/km]	Max. DC Resist. Cond. 20 °C [Ohm/km]	Perm. current in air 30 °C — flat [A]	Perm. current buried 20 °C — trefoil [A]	Short-circuit conductor 1 s [kA]	Nexans Ref.
95	45.0	2700	0.193	434	285	13.6	10564587
240	53.0	4530	0.0754	641	469	34.3	10563510
240	53.0	4530	0.0754	641	469	34.3	10567304

The user-supplied matrix contains no screen short-circuit field, conductor diameter, sheath diameter, mass for alternative constructions or screen cross-section. Those values are not inserted from another cable.

6. Derived installation checks

Derived values use only the supplied nominal outer diameter, weight and 12 (xD) laying factor. They are arithmetic screening values, not additional manufacturer specifications.

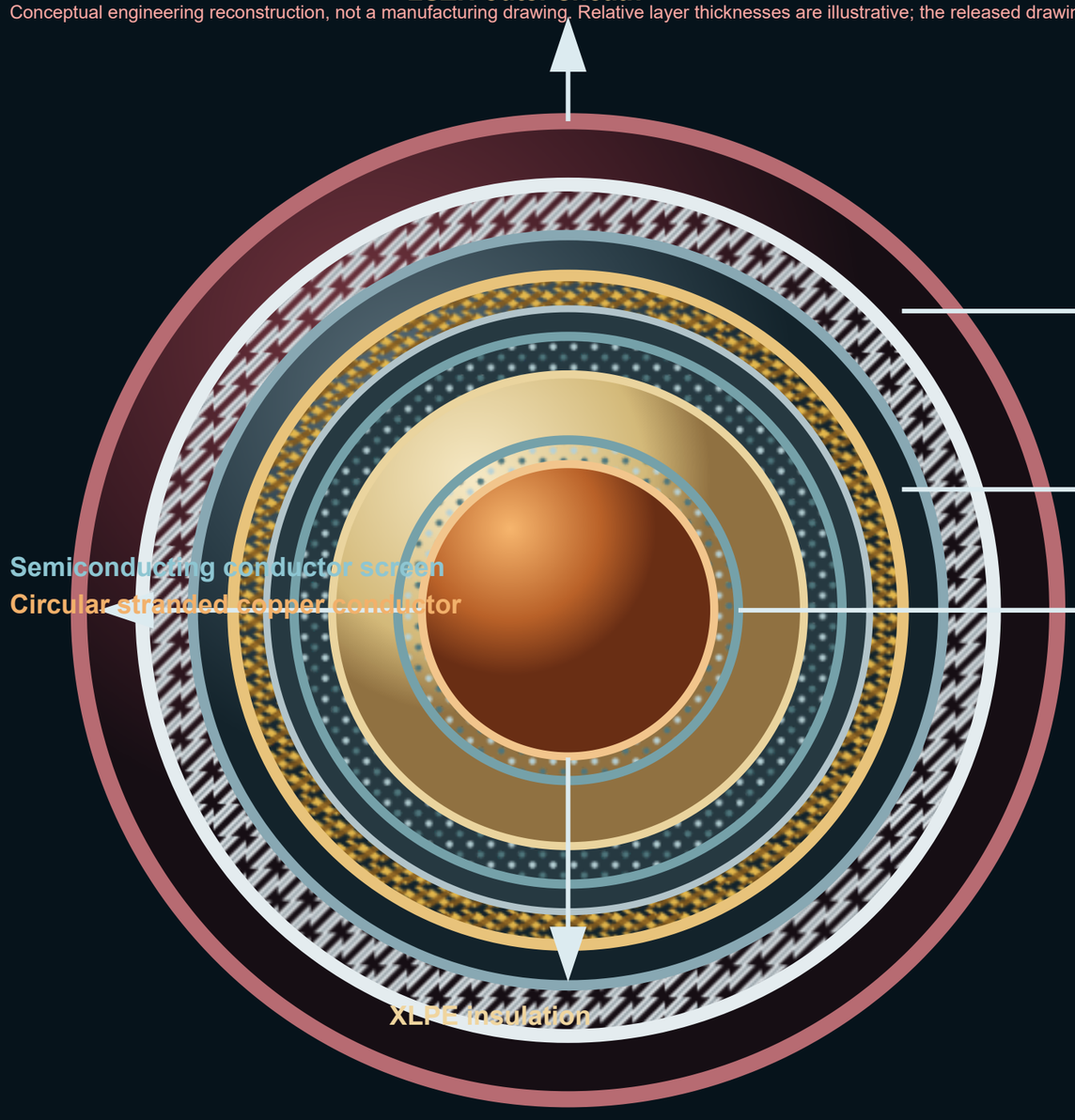
Cross section	Source OD	Laying factor	Derived radius	Approx. mass per 100 m
95 mm²	45.0 mm	12 × D	**540.0 mm**	**270.0 kg/100 m**
240 mm²	53.0 mm	12 × D	**636.0 mm**	**453.0 kg/100 m**

7. Layer-by-layer cross-section

YXC7Z1Y2Z1 20.3/35 kV — single-core physical layer architecture

Copper conductor · semiconducting conductor screen · XLPE · semiconducting insulation screen · crape tape · copper screen · LSZH separation sheath · round aluminium wires · LSZH outer sheath.

Conceptual engineering reconstruction, not a manufacturing drawing. Relative layer thicknesses are illustrative; the released drawing controls dimensions.



Published dimensional anchors

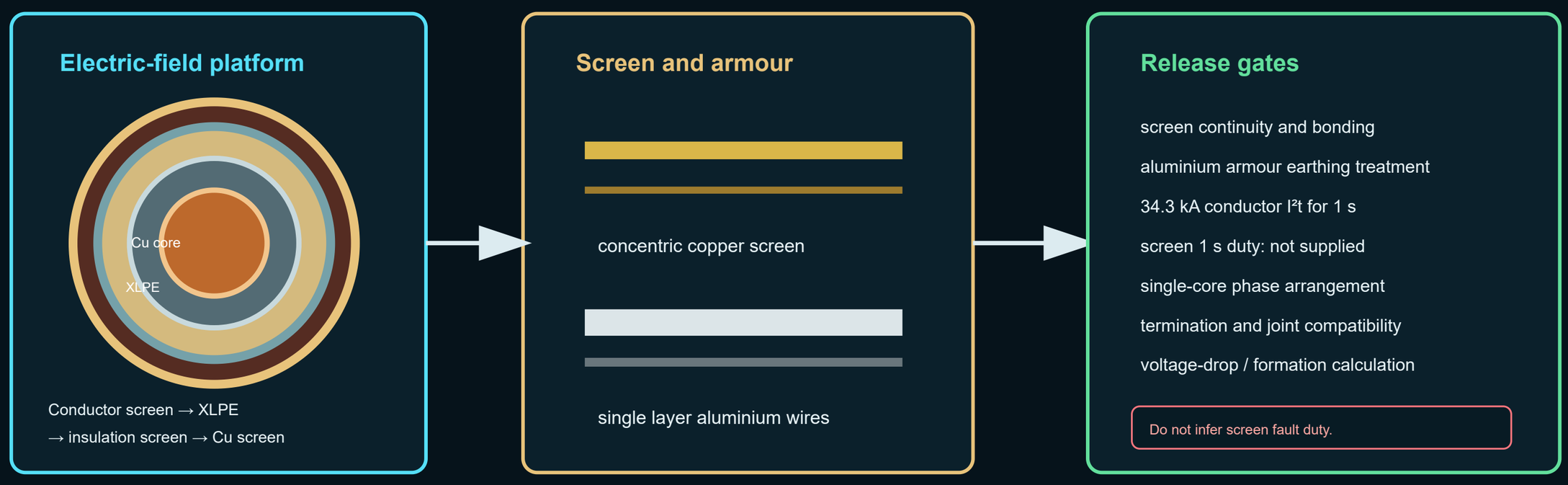
95 and 240 mm² conductor rows · 18.3 mm conductor diameter
8.5 mm average XLPE thickness · 2.7 mm LSZH sheath
53.0 mm nominal outer diameter · concentric copper screen

The diagram is a conceptual engineering reconstruction. It distinguishes the concentric copper screen, LSZH layers and round aluminium-wire armour; exact dimensions remain controlled-drawing fields.

8. Electrical, screen and armour system

YXC7Z1Y2Z1 single-core system — electric field, screen and armour path

One cable unit is shown. A three-phase circuit arrangement, screen bonding and aluminium-armour treatment are project-level system decisions.



Electric-field continuity
Semiconducting screens, XLPE and the copper screen must remain continuous through joints and terminations.

Screen bonding
Bonding depends on system earthing, induced voltage, earth-fault duty, route length and local rules.

Aluminium armour
Round aluminium wires are mechanically distinct from the copper screen; armour continuity and bonding require separate review.

High-voltage accessories
Use the exact insulation diameter, screen preparation, LSZH sheath and armour-entry dimensions for 20.3/35 kV accessories.

9. Thermal, voltage-drop and short-circuit design

Engineering closure matrix

Check	Known source basis	Engineering implication	Release action
System voltage	20.3 / 35 kV	High-voltage insulation coordination, joints, terminations and protection must match.	Confirm the project insulation and test file.
95 mm² row	45.0 mm; 2700 kg/km; 434 A air flat; 285 A buried trefoil; Ref 10564587	Use only under the stated formation bases and route corrections.	Verify route thermal and accessory design.
240 mm² rows	53.0 mm; 4530 kg/km; 641 A air flat; 469 A buried trefoil; Refs 10563510 / 10567304	Two references are preserved as separate rows; do not merge them without controlled confirmation.	Identify the exact ordered reference.
Bending	12 (xD)	540.0 mm for 45.0 mm OD and 636.0 mm for 53.0 mm OD are screening radii.	Confirm drum, roller, entry and accessory limits.
Conductor fault	13.6 kA for 95 mm²; 34.3 kA for 240 mm², 1 s	Coordinate protection I²t with conductor and accessory capability.	Complete the protection study.
Screen fault	Not supplied in the source matrix	Metallic screen construction is stated, but no numerical screen short-circuit value is supplied.	Close screen bonding and I²t design.
Fire	IEC 60332-3-24 Cat. C	Do not infer Eca, Cca, B2ca or s/d/a qualifiers.	Match the exact product declaration.
Dynamic service	Not stated	12×D is a laying factor, not reeling, festoon or drag-chain qualification.	Use a dedicated dynamic cable family.

10. Fire and LSZH performance boundary

Source-listed flame reference
IEC 60332-3-24 Cat. C is retained exactly from the source. It is a test reference, not a complete CPR declaration.

LSZH construction
LSZH separation and outer sheaths are explicit construction fields. Confirm smoke, acidity, corrosivity and product declaration for the ordered reference.

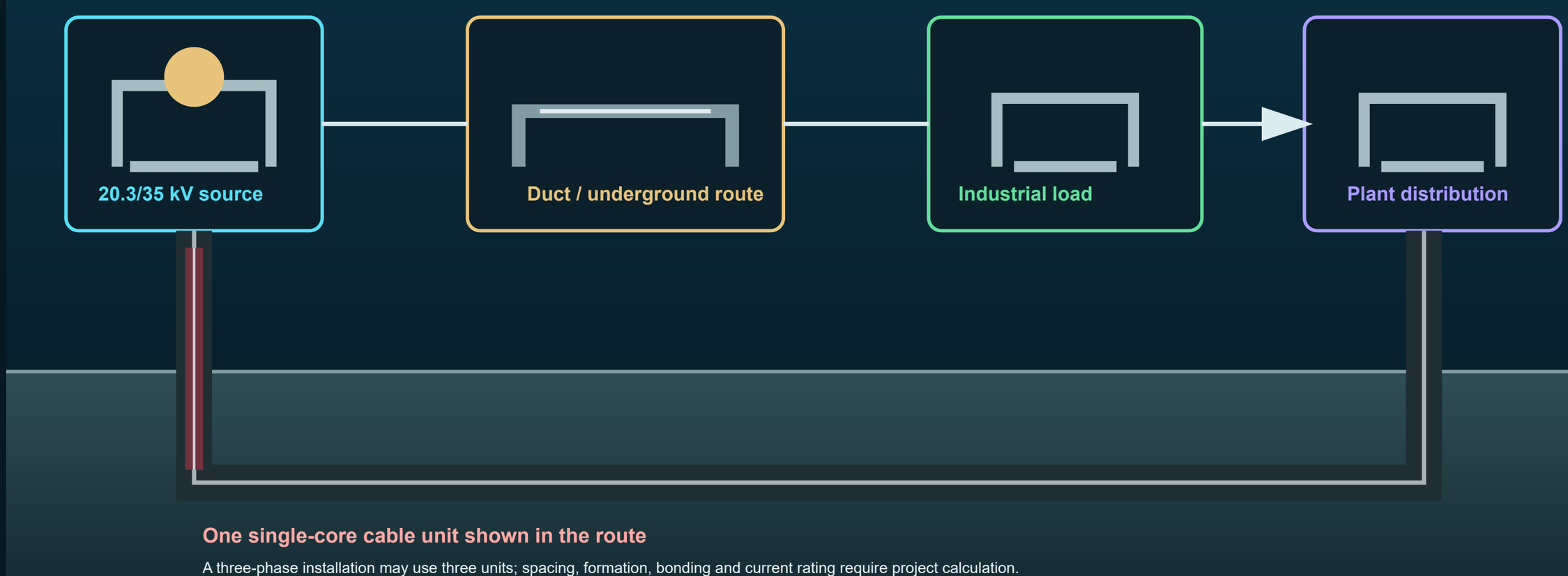
Project fire strategy
Review cable grouping, fire stopping, penetrations, ventilation, emergency egress and local requirements with the current product file.

Do not overclaim: the supplied record does not state Eca, Cca, B2ca or s/d/a qualifiers.

11. Fixed-route applications

YXC7Z1Y2Z1 20.3/35 kV — fixed-route application architecture

Low-loss fixed energy-network feeder for residential or industrial areas, underground routes and ducts.



One single-core cable unit shown in the route

A three-phase installation may use three units; spacing, formation, bonding and current rating require project calculation.

Review water exposure, mechanical loads, LSZH fire behaviour, earthing, duct fill, soil thermal resistance and joint access.

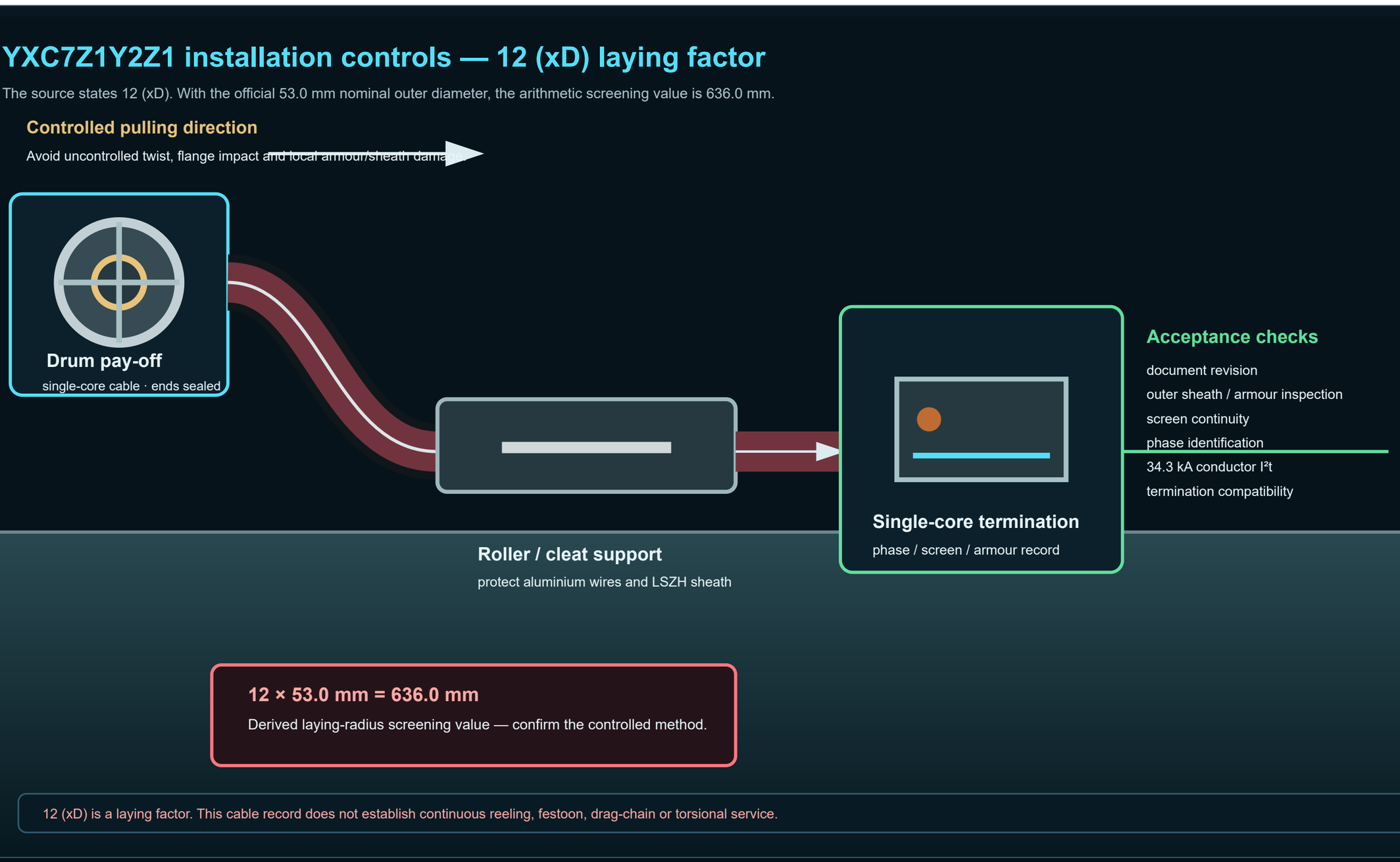
Energy-network feeder
The source identifies low dielectric losses and networks with sudden load changes. Final selection needs load profile, conductor area, protection and route design.

Underground route
Review soil thermal resistance, depth, water exposure, drainage, backfill, mechanical impact and joint access.

Duct installation
Check duct fill, pulling load, sidewall pressure, entry geometry, bends, heat dissipation, water and installation temperature.

Residential / industrial area
Review public access, fire strategy, induced voltage, earthing, support spacing, maintenance clearance and the consequences of LSZH sheath selection.

12. Handling and termination

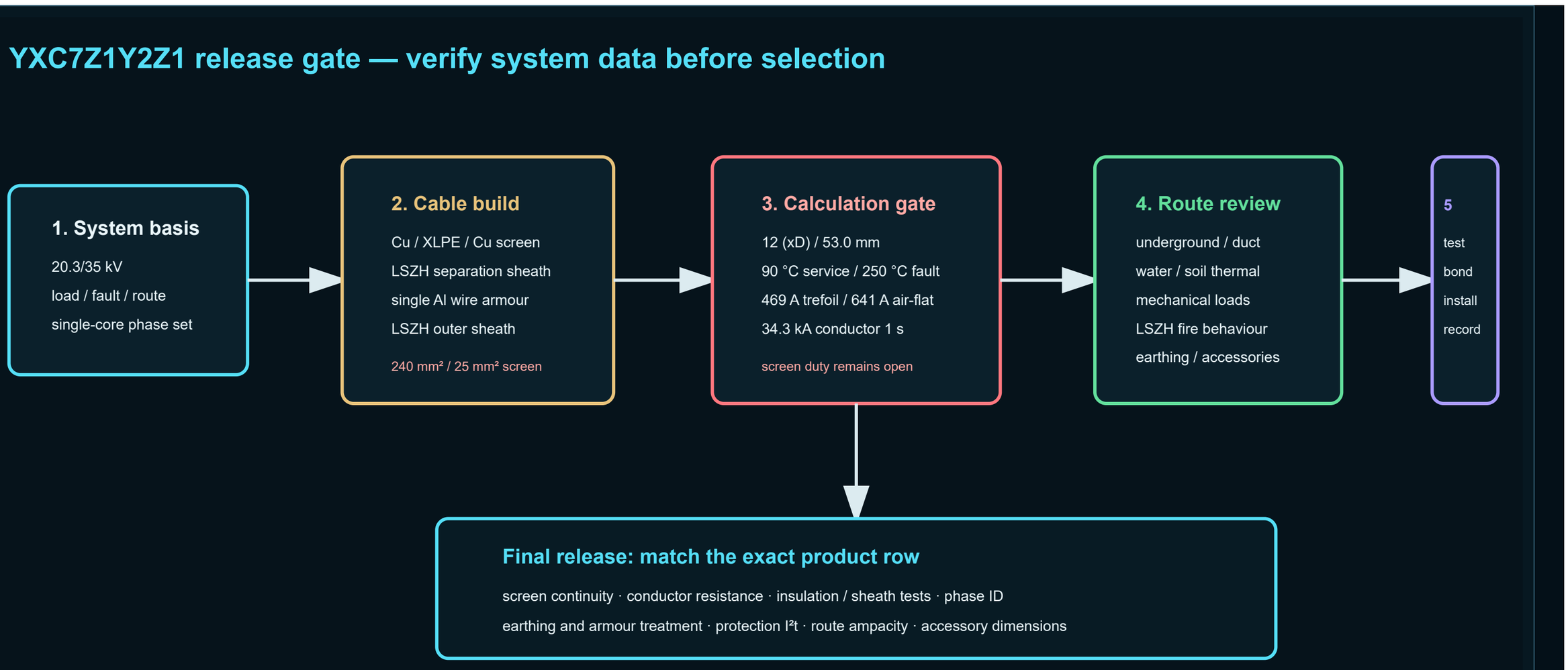


1. Confirm the exact product reference, conductor area, diameter, mass, drum label and end seals before unloading.
2. Use 12×D only as the supplied laying factor: 540.0 mm for the 95 mm² row and 636.0 mm for the 240 mm² rows.
3. Protect the LSZH sheath and aluminium wires from crushing, uncontrolled twist, sharp entries and local abrasion.
4. Prepare the 20.3/35 kV termination with the correct screen, XLPE stress-control, sheath and armour-entry dimensions.
5. Verify conductor resistance, screen continuity, armour continuity/bonding, insulation/sheath tests and project-specified MV tests before energisation.

13. Selection comparison for engineers

Source-based selection comparison

Requirement	Source reference	What must be verified	Engineering decision
20.3/35 kV fixed feeder	Cu / XLPE / copper screen / LSZH / round Al-wire armour / LSZH	Confirm system earthing, formation, bonding, protection and accessories.	Candidate after exact-size release.
95 mm²	45.0 mm OD; 2700 kg/km; 434 A air flat; 285 A buried trefoil	Check voltage drop, thermal correction, fault duty, pulling and termination.	Use Ref 10564587.
240 mm²	53.0 mm OD; 4530 kg/km; 641 A air flat; 469 A buried trefoil	Three source references are preserved; identify the exact row on the order.	Use Ref 10563510 or 10567304 as confirmed.
LSZH fixed route	LSZH separation and outer sheath; IEC 60332-3 Cat. C	Confirm current fire declaration, smoke, corrosive-gas and route requirements.	Do not infer CPR class.
Reeling / festoon / drag chain	12×D laying factor only	Cycles, torsion, acceleration and dynamic bend radius are not supplied.	Select a dedicated dynamic cable.



14. Failure-mode controls

Reference confusion: the 240 mm² row has three supplied Nexans references; do not collapse them without confirmation.

Screen assumption: a copper screen construction is not the same as a published screen short-circuit current.

Formation substitution: 641 A air-flat and 469 A buried-trefoil values cannot be transferred to other formations.

Radius misuse: 12×D is a laying factor, not a dynamic-service qualification.

Fire substitution: IEC 60332-3 Cat. C and LSZH do not automatically establish a CPR class.

Dynamic misuse: fixed-route high-voltage cable is not automatically suitable for reeling or energy chains.

15. Feichun certification and project assurance

Engineered for maximum safety in demanding environments, Feichun Cable cable systems comply with global standards including **ATEX, IECEx, VDE, CE, UKCA, EAC, and the Russian Fire Safety Certificate**. They are the trusted choice for heavy-duty mining equipment, ship-to-shore cranes, RTG/RMG cranes, and conveyor systems where high reliability is non-negotiable.

Configuration-specific certification
Certification capability does not make every YXC7Z1Y2Z1 size automatically TSEK, IECEx, ATEX, EAC or fire-certified. The exact conductor, screen, LSZH compounds, aluminium armour, voltage class and documentation must match.

Feichun release dossier
Confirm conductor flexibility, conductor and screen area, DCR, outer diameter, mass, current ratings, short-circuit values, screen bonding, armour treatment, bending instructions and accessory compatibility.

High-voltage accessory control
For 20.3/35 kV service, the termination and joint system must be selected with the exact insulation diameter, screen preparation, sheath, armour and test requirements.

Engineering value
Feichun can develop the copper / XLPE / copper-screen / LSZH / aluminium-wire-armoured architecture around the actual route, protection system and market documentation without copying incomplete data.

Release condition: this article does not invent a TSEK certificate number, screen short-circuit current, CPR class, dynamic rating, product test report or alternative conductor size.

16. Source and revision audit

Source and revision audit

Source	Reference / use	Status and limitation
Nexans family page	https://www.nexans.com.tr/en/products/xlpe-insulated-medium-voltage/copper-conductor/YXC7Z1Y2Z136402.html	Confirms YXC7Z1Y2Z1 20.3/35 kV, TSEK, LSZH construction, 95 and 240 mm² family rows and three product references.
Nexans 95 mm² page	https://www.nexans.com.tr/tr/products/xlpe-insulated-medium-voltage/copper-conductor/YXC7Z1Y2Z136402/product~10564587~.html	Official cross-check for Ref 10564587 and the 95 mm² row.
Nexans 240 mm² pages	https://www.nexans.com.tr/tr/products/xlpe-insulated-medium-voltage/copper-conductor/YXC7Z1Y2Z136402/product~10563510~.html / https://www.nexans.com.tr/en/products/xlpe-insulated-medium-voltage/copper-conductor/YXC7Z1Y2Z136402/product~10567304~.html	Official cross-check for the two 240 mm² references; they must not be silently merged.

Source	Reference / use	Status and limitation
Nexans family PDF	https://www.nexans.com.tr/.rest/catalog/v1/family/pdf/36402/YXC7Z1Y2Z1-20-3-35-kV	Official family PDF route; preserve the supplied 8/4/26 two-page record as the primary article source.
IEC 60332-3-24:2018	https://webstore.iec.ch/en/publication/32826	Flame-spread context for Category C; not a CPR declaration.
IEC 60502-2	https://webstore.iec.ch/en/publication/95394	General fixed-installation MV reference only; the supplied product standard is National TSEK.
User-supplied record	Primary source	All values, construction, page labels, dashes and duplicate 240 mm² references are preserved.

This article is for preliminary engineering, technical search and comparison. The final Feichun YXC7Z1Y2Z1 20.3/35 kV release must be checked against the current product data sheet, National TSEK basis, exact product row, current ratings, screen and armour design, fire documentation, accessories, installation method and local authority requirements.

Feichun Cable — YXC7Z1Y2Z1 20.3/35 kV engineering support

Phone
+86 13855123218

Technical email
Tech@feichuncables.com

This article separates supplied values, official product additions, source dashes and Feichun project-confirmation values. Missing fields are not filled from another supplier, cable family or conductor size.

FEICHUN-YXC7Z1Y2Z1-20-3-35KV-ENGINEERING-EN · 03 August 2026