FEICHUN CABLE | N2XS(F)H 12/20 kV | Cca | 120–400 mm² | RADIAL + LONGITUDINAL WATER BLOCKING | Cu / XLPE / LSZH | IEC 60502-2

Feichun N2XS(F)H 12/20 kV — Cca Water-Blocked LSZH Medium-Voltage Cable

A full-English engineering guide to the N2XS(F)H single-core XLPE cable family for fixed medium-voltage networks. The supplied reference identifies class 2 copper conductors, a 12/20 (24) kV rating, radial and longitudinal water blocking, an LSZH outer sheath, Cca fire performance and complete 120–400 mm² electrical and thermal data.

Uo/U (Um): 12 / 20 (24) kV | Class 2 copper conductor | 90 °C service | 250 °C short circuit | Longitudinally watertight: Yes | IEC 60332-3 Cat. C | IEC 60754-1 / -2 | IEC 61034-2

Voltage class
12/20 kV
24 kV maximum system-voltage notation in the supplied source.

Water protection
2-axis
Radial and longitudinal water blocking are explicit construction claims.

Family matrix
120–400 mm²
Four complete source rows with dimensions, resistance and ratings.

Fire / sheath
Cca
LSZH sheath, IEC 60332-3 Cat. C, IEC 60754-1/-2 and IEC 61034-2.

Contents

1. Engineering position
2. Designation and application logic
3. Standards and evidence boundary
4. Complete family specification
5. Full 120–400 mm² source matrix
6. Layer-by-layer cross-section
7. Radial and longitudinal water blocking
8. Electrical, thermal and short-circuit design
9. Fire performance and LSZH
10. Fixed-route application architecture
11. Handling, bending and termination
12. Selection comparison
13. Failure mode analysis
14. Feichun certification scope
15. Source and data audit

1. Engineering position: a water-aware MV cable for fixed energy networks

N2XS(F)H 12/20 kV is a single-core, XLPE-insulated, copper-conductor medium-voltage cable with an LSZH outer sheath and an explicitly stated radial and longitudinal water-blocking construction. The supplied application is fixed energy-network service in residential or industrial areas, underground routes and cable ducts, including networks with sudden load changes where low dielectric losses are useful.

Electrical platform
The class 2 stranded copper conductor carries phase current. The conductor screen, XLPE insulation and insulation screen form the controlled radial dielectric system required for MV stress management.

Water-blocking platform
Radial and longitudinal water movement are different failure modes. A swelling tape and metallic screen construction can limit propagation, but end seals, joints, sheath integrity and drainage still determine installed performance.

Fire-performance platform
The supplied family title states Cca. The source separately lists IEC 60332-3 Cat. C, IEC 60754-1/-2 and IEC 61034-2; these references answer different fire, smoke and gas questions.

System platform
Single-core formation, screen bonding, cleats, terminations, induced-current control, current rating and short-circuit duty must be designed as one cable system rather than selected from the conductor area alone.

Data boundary: the complete matrix and characteristic values below preserve the supplied Nexans reference. They are an engineering benchmark for Feichun development, not an invented Feichun manufacturing drawing, catalogue code or certificate. The released Feichun construction must have its own controlled data and test evidence.

2. N2XS(F)H designation and application logic

Designation / field	Engineering reading	Design consequence	Data status
N	European / national designation family.	Read the complete construction and standard; the first letter is not a sufficient purchase specification.	Designation context
2X	XLPE insulation family.	Coordinate the dielectric system with 12/20 (24) kV accessories and test requirements.	Reference construction
S	Copper metallic screen construction.	Screen continuity, bonding, earth-fault duty and induced-current control are mandatory design items.	Reference construction

Designation / field	Engineering reading	Design consequence	Data status
(F)	Used here as part of the source product designation whose construction explicitly states radial and longitudinal water blocking.	Do not decode the parenthetical letter beyond the current controlled product document; verify the actual water-blocking materials and test basis.	Source designation + construction
H	Halogen-free / LSZH sheath family.	Supports low-smoke and halogen-related fire strategy; exact CPR performance remains product-specific.	Reference construction
12/20 (24) kV	Rated voltage Uo/U with Um notation.	Check system earthing, insulation coordination, terminations, joints and testing against the project voltage class.	Supplied source
120–400 mm²	Four listed copper-conductor nominal areas.	Choose by thermal capacity, voltage drop, fault duty, pulling mechanics and accessory availability—not current alone.	Supplied matrix

Suitable service logic
Fixed distribution feeders, transformer connections, industrial plants, switchgear, process facilities, residential or industrial areas, underground routes and ducts when accessories and installation conditions are compatible.

Why the water-blocked design matters
Wet ducts, groundwater, damaged sheath sections and long cable runs can turn a local defect into a route-wide dielectric and corrosion risk. Longitudinal water blocking addresses propagation; it does not remove the need for sealing.

Do not overextend the designation
This fixed-installation reference is not automatically a mining trailing cable, crane reeling cable, festoon cable, drag-chain cable, continuous-torsion cable, shipboard cable or submarine cable.

Port-engineering interpretation
It can be evaluated for fixed shore-side MV feeders serving port substations and industrial loads. A moving STS, RTG or shipboard route needs a cable family and accessory system designed for motion, torsion and the applicable special standard.

3. Standards and evidence boundary

Reference	What it addresses	How to use it in an engineering decision	Evidence boundary
IEC 60502-2	Product standard listed by the source for extruded-insulation MV power cables.	Use for construction, dimensions and test-basis review for the 12/20 (24) kV fixed-installation class.	Confirm current adopted edition and the exact Feichun conformity file.
IEC 60332-3 Cat. C	Bunched-cable vertical flame-spread test category.	Use as a flame-spread test reference; do not equate it with Cca or with a complete route fire strategy.	Source-listed test reference; current report required.
IEC 60754-1; IEC 60754-2	Halogen-acid-gas / corrosivity-related fire-performance references.	Use when smoke and corrosive-gas exposure are part of the building, tunnel or plant safety case.	Source-listed; compound and report must match the ordered product.
IEC 61034-2	Smoke-density test reference.	Combine with cable grouping, ventilation, enclosure geometry and emergency-egress requirements.	Source-listed; not a standalone CPR declaration.
Cca	Fire-performance class stated in the supplied family title.	Place the exact class in the project fire schedule only after checking the current product-specific declaration and qualifiers.	The supplied data does not state s1, d0 or a1 qualifiers.

Important standard-scope distinction: the official IEC 60502-2 record describes extruded-insulation cables from 6 kV up to 30 kV for fixed installations and notes that special service conditions—such as mining, nuclear containment, submarine and shipboard use—are outside that general scope. That supports the fixed MV application logic here; it is also why a port crane travel cable cannot be selected from this data sheet merely because its voltage is similar.

4. Complete N2XS(F)H 12/20 kV Cca family specification

Source values are shown in the second column; engineering interpretation is intentionally separate. A value labelled “confirm” is not a blank to be filled from another size, supplier or previous cable family.

Specification field	Reference value	Engineering interpretation	Data status
Product designation	N2XS(F)H 12/20 kV Cca	Single-core XLPE-insulated medium-voltage cable with a copper conductor and LSZH outer sheath; the source title specifies radial and longitudinal water blocking.	Supplied / Nexans family reference
Product description	12/20 kV XLPE insulated single core cables with copper conductor and LSZH outer sheath with radial and longitudinal water blocking	A fixed-installation MV architecture in which water blocking is a primary selection feature for underground and duct routes.	Supplied source
Product standard	IEC 60502-2	The source lists IEC 60502-2. Confirm the project-adopted edition, conformity route and accessory standard before release.	Supplied source — current edition to be confirmed
Conductor material	Copper	Low-resistance phase conductor for medium-voltage distribution and industrial feeders.	Supplied source
Conductor flexibility	Class 2	Stranded construction supports installation handling; it does not create a continuous-flex or reeling rating.	Supplied source
Number of cores	1	Single-core system; phase formation, screen bonding, induced current and cleat forces are installation-level design inputs.	Official product page / PDF
Rated Voltage Uo/U (Um)	12 / 20 (24) kV	The 24 kV Um value is the maximum system-voltage notation supplied for the cable family.	Supplied source
Operating temperature, range	-20 ... 90 °C	The supplied usage range and current official product page record; ambient, laying, accessory and sheath limits still govern the complete installation.	Supplied source / current official page

Specification field	Reference value	Engineering interpretation	Data status
Older official PDF operating range	**-20 ... 60 °C**	The older official family PDF record contains a different operating-range value. It must not be merged with the supplied 90 °C record; confirm the controlled revision before procurement.	**Older official PDF — Generated 7/11/25**
Max. conductor temperature in service	90 °C	Continuous conductor temperature limit stated in the supplied characteristics and current official product page.	Supplied source / current official page
Short-circuit max. conductor temperature	250 °C	Use with the exact protection clearing time, conductor I²t calculation and accessory short-circuit capability.	Official product page / PDF
Longitudinally watertight	Yes	Longitudinal water propagation is a declared design characteristic; cable ends, joints and terminations still require sealing control.	Supplied source / official page
Radial water blocking	Yes	The product description explicitly states radial and longitudinal water blocking; the released test basis must be matched to the ordered design.	Supplied source / official page
Insulation	XLPE	The principal solid dielectric layer for the 12/20 kV voltage class.	Supplied source
Conductor screen	Semi-conducting compound (XLPE)	Electric-field transition between conductor and XLPE insulation; preparation quality is critical at MV accessories.	Supplied source
Insulation screen / water-blocking build	Semi-conducting compound (XLPE) + water swelling tape + copper wires with counter helix of copper tape	The source construction places the swelling tape and metallic screen system in the insulation-screen region; exact layer thickness and lay are controlled-drawing items.	Supplied source
Outer sheath	LSZH	Low-smoke, halogen-free sheath family; exact compound, colour, thickness and CPR declaration must match the released product.	Supplied source
Flame retardant	IEC 60332-3 Cat. C	A bunched-cable vertical flame-spread test reference; it is not a substitute for the Cca classification or its supporting declaration.	Supplied source
Halogen free	IEC 60754-1; IEC 60754-2	Halogen-acid-gas and corrosivity-related references listed by the source; use the current test report for the ordered compound.	Supplied source
Smoke density	IEC 61034-2	Smoke-performance test reference listed by the source; route geometry and cable grouping remain part of the fire assessment.	Supplied source
Fire performance class	Cca	Cca is the fire-class designation shown in the supplied family title. The source title alone does not state the smoke, droplet or acidity qualifiers.	Supplied source — qualifiers require current DoP
Official DoP fire declaration	Cca-s1,d2,a1	The official family DoP record declares Cca-s1,d2,a1 according to EN 50575:2014+A1:2016 for the listed product family references; verify the exact ordered product and current declaration.	Official DoP — family record
Application	Energy networks with sudden load changes; residential or industrial areas; underground or in ducts	Use for fixed MV routes when voltage, thermal, mechanical, water, fire and accessory conditions are all closed by design.	Supplied source
Source record	Generated 8/4/26 — www.nexans.com.tr — Page 1 / 2	Preserved from the supplied reference; confirm the controlled document revision before procurement.	Supplied source metadata
Source record continuation	N2XS(F)H 12/20 kV Cca — Page 2 / 2	The supplied matrix and characteristics are treated as the user reference record for this article.	Supplied source metadata
Official PDF record	**Generated 7/11/25 — Page 1 / 2 and Page 2 / 2**	The official family PDF is retained as a separate revision record because its operating range differs from the supplied/current-page value.	**Older official PDF metadata**
Bending factor when laying	**Not stated in the supplied Cca reference**	No minimum laying radius is derived here. Obtain the released Feichun installation factor and accessory instructions for the ordered size.	**Not supplied — do not infer**

5. Full source matrix — N2XS(F)H 12/20 kV Cca

The following matrix preserves every supplied row and field. “Perm. current rating” values apply only to the stated ambient and flat formation in the source; they are not universal ampacity values.

Cross section [mm²]	Nom. outer diam. [mm]	Max. DC Resist. Cond. 20 °C [Ohm/km]	short circuit conductor 1 s [kA]	Reactance at 50 Hz [Ohm/km]	Voltage Drop [V/A.km]	Perm. current rating in air 30 °C - flat formation [A]	Perm. current rating buried 20 °C - flat formation [A]	Nexans Ref.
120	32.6	0.153	17.2	0.12	0.4	500	323	10582786
185	34.3	0.0991	26.5	0.11	0.3	637	406	10581520
300	39.7	0.0601	42.9	0.1	0.2	846	526	10582784
400	42.3	0.047	57.2	0.1	0.2	938	590	10582785

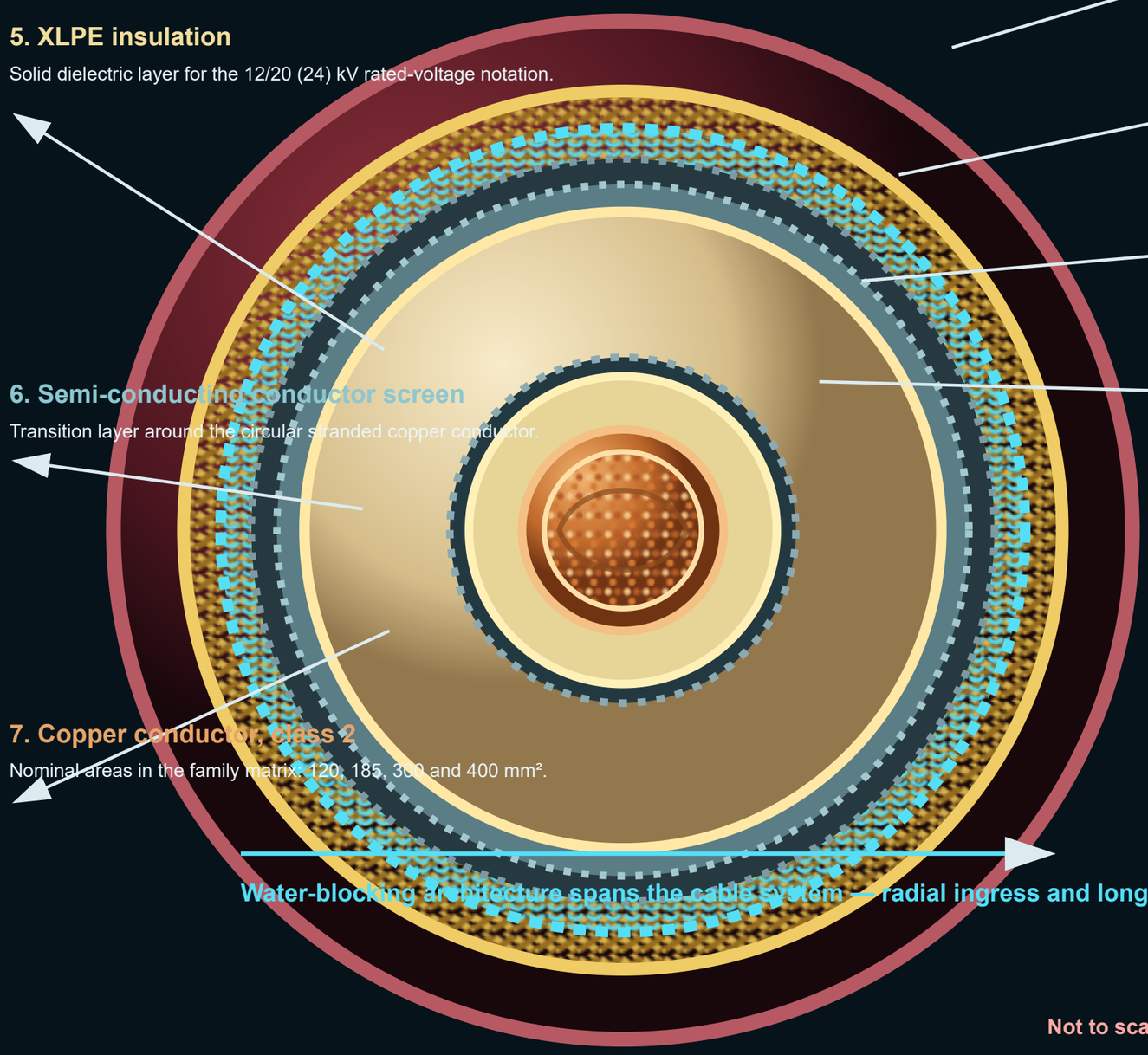
The matrix is reproduced from the supplied N2XS(F)H 12/20 kV Cca reference. Product drawings, dimensions and ratings are indicative until the current controlled manufacturer document and project calculation are accepted.

6. Layer-by-layer cross-section — why the water-blocking detail is important

N2XS(F)H 12/20 kV — source construction sequence

Single copper core · class 2 stranded conductor · XLPE insulation · radial and longitudinal water blocking · copper wire / tape screen · LSZH sheath.

Illustrative engineering cross-section, not a manufacturing drawing. Exact layer thicknesses, screen coverage and lay dimensions require the controlled Feichun release.



The supplied construction sequence is: copper conductor; semi-conducting conductor screen; XLPE insulation; semi-conducting insulation screen; water swelling tape; copper wires with counter helix of copper tape; and LSZH outer sheath. The swelling tape is shown as a functional layer, not as a claim that every geometric detail is identical to the illustrative drawing.

Conductor: copper, class 2
Stranding improves installation handling. It does not remove the need to control pulling load, sidewall pressure, radius, cleat spacing and termination preparation.

Conductor and insulation screens
These layers control the radial electric-field transition. Screen stripping, semicon removal and stress-control interface quality are critical at MV joints and terminations.

Water swelling tape
The source places a water swelling tape in the insulation-screen construction. Its material, overlap, swelling response and test method must be verified in the released Feichun drawing and report.

Copper screen with counter helix
The screen is an electrical and fault-path component. Its continuity, bonding arrangement, induced-current loss and short-circuit duty must be calculated and tested.

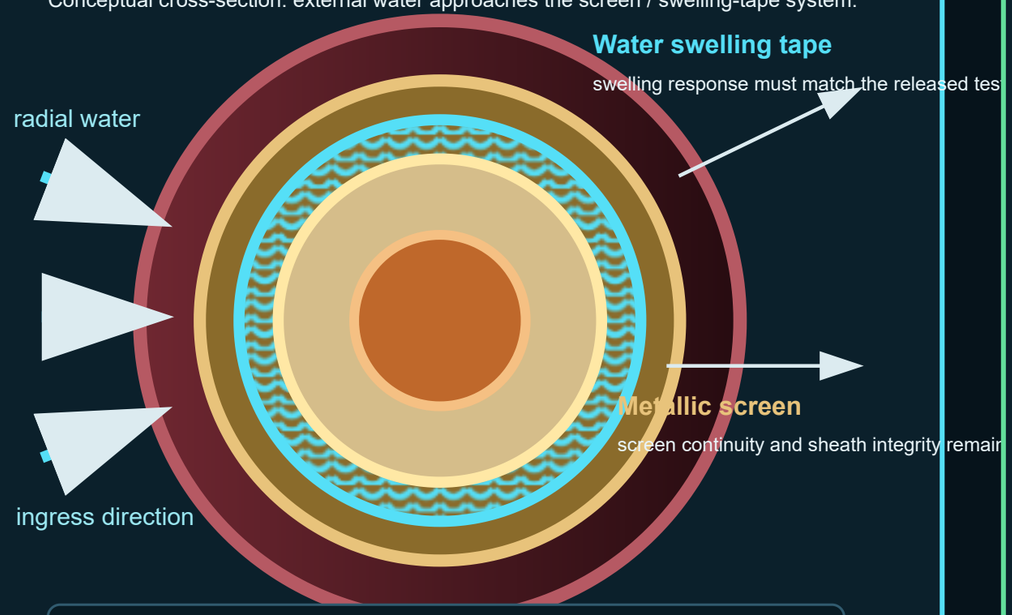
7. Radial and longitudinal water blocking — an engineer’s failure-path model

N2XS(F)H water-blocking logic — two axes, two failure paths

Radial water blocking limits movement from the cable perimeter toward the dielectric system; longitudinal water blocking limits propagation along the cable route.

A. Radial water ingress

Conceptual cross-section: external water approaches the screen / swelling-tape system.

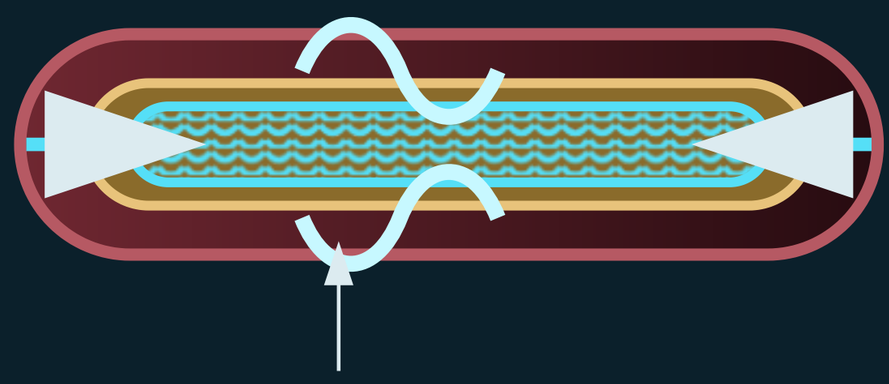


Do not describe LSZH alone as a water barrier; verify the complete cable construction.

B. Longitudinal water propagation

Conceptual cable length: a local sheath or end-seal defect must not become a route-wide failure.

Route controls: end seals · joint design · sheath inspection · drainage · duct water level · screen bonding



Swelling zone interrupts the longitudinal pathway

The actual test method, swelling material and end treatment must be confirmed for the released item.

Radial path
Water can approach from the outside toward the screen and dielectric interfaces after sheath damage, immersion or a wet route. The complete radial barrier claim must be tied to the current design and type-test evidence.

Longitudinal path
Water can travel along interstices or interfaces over the cable length. “Longitudinally watertight: Yes” is useful for route reliability, but a cut end, joint or termination remains a potential entry point.

Water-blocking is not drainage
Water swelling materials limit propagation; they do not replace duct drainage, route grading, end sealing, joint enclosure selection or inspection after installation.

Corrosion and screen reliability
Moisture management protects more than insulation. It also reduces the risk of corrosion, screen discontinuity, accessory contamination and difficult fault-current paths.

Commissioning rule: inspect and seal both cable ends before the cable enters the route. Record sheath condition, water-blocking construction, joint kits, screen bonding, drainage condition and any exposure to standing water.

8. Electrical, thermal and short-circuit design

Air versus buried ratings
The source matrix gives air ratings at 30 °C and buried ratings at 20 °C, both in flat formation. These are boundary conditions, not generic values. Actual soil thermal resistivity, depth, grouping, spacing, duct thermal resistance, ambient and solar exposure must be solved.

Conductor resistance
Maximum DC resistance is specified at 20 °C. For voltage drop and losses, correct for conductor temperature and use the applicable AC resistance, reactance, power factor, route length and phase arrangement.

Single-core magnetic arrangement
Flat formation affects reactance, induced currents, screen losses and cleat forces. Phase spacing and screen bonding cannot be left to a generic multicore-cable assumption.

Fault duty
The matrix supplies conductor short-circuit current for 1 s. Verify protection clearing time, conductor 250 °C limit, screen fault duty, bonding method, joint capability and termination capability as one I^2t chain.

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Three-phase voltage-drop screening relation:
ΔU ≈ √3 × I × (R_ac × cos ϕ + X × sin ϕ) × L

Thermal acceptance requires:
I_load ≤ I_z(actual formation, ambient, soil, grouping, screen losses, accessory limits)

Short-circuit coordination requires:
I²t_protection ≤ I²t_cable / accessory / screen system

The source supplies DCR at 20 °C, reactance at 50 Hz, voltage-drop field, current ratings and conductor 1 s short-circuit current; no source weight field is supplied in this matrix. The equations are engineering screening relations; final calculations must use the controlled installation basis and the applicable calculation method.
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Engineering check	Source field to use	Why it matters	Release decision
Normal loading	Air / buried permissible current	Formation, ambient, soil and grouping change heat dissipation.	Recalculate for the actual route.
Voltage drop	DCR, reactance and voltage-drop fields	Motor starting, load change, power factor and route length can govern the area.	Use project load profile.
Conductor fault duty	Short-circuit conductor 1 s [kA] and 250 °C limit	Clearing time and initial conductor temperature affect I^2t.	Verify with protection study.

Engineering check	Source field to use	Why it matters	Release decision
Screen fault duty	Screen construction; no screen-current value supplied in the matrix	Screen continuity and bonding must carry the intended earth-fault current.	Must be confirmed before release.

9. Fire performance, smoke and LSZH

The supplied family title states **Cca**. The same reference separately lists **IEC 60332-3 Cat. C**, **IEC 60754-1; IEC 60754-2** and **IEC 61034-2**. These should be read as separate evidence layers: a fire-performance class, a flame-spread test reference, halogen-acid-gas / corrosivity references and a smoke-density reference.

Cca
Use the exact product-specific reaction-to-fire declaration in the project fire schedule. The supplied material does not state the smoke, droplet or acidity qualifiers, so they must not be invented.

IEC 60332-3 Cat. C
The official IEC publication describes a bunched-cable vertical flame-spread test. Category C uses a defined non-metallic-material volume and flame-application time; it is not itself a CPR Cca declaration.

IEC 60754-1 / -2
These references support evaluation of halogen-acid-gas and corrosivity-related behaviour. Exact values must match the sheath and insulation compound in the ordered construction.

IEC 61034-2
Smoke density is a test result, not a guarantee of visibility in every installed arrangement. Cable grouping, ventilation, enclosure and fire compartmentation remain decisive.

LSZH outer sheath
Low-smoke, halogen-free construction supports human-safety and equipment-protection objectives, but LSZH alone does not automatically establish Cca or any particular sub-class.

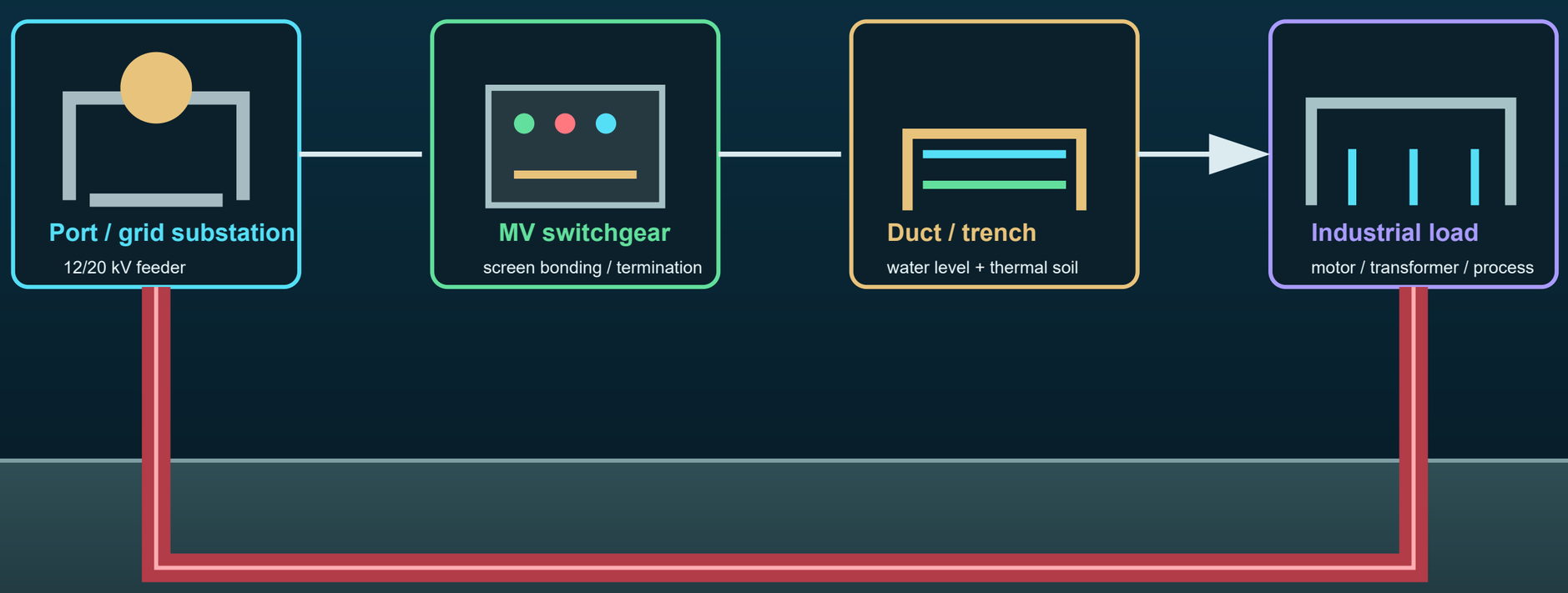
Project fire strategy
Confirm cable classification, DoP, route grouping, fire stopping, penetration seals, support system, emergency egress and local building requirements together.

Procurement rule: ask for the current product-specific declaration and fire-test report for the exact Feichun N2XS(F)H size and construction. Do not copy a fire sub-class from another cable or another supplier.

10. Fixed-route application architecture

N2XS(F)H fixed-route architecture — water-aware MV distribution

Shore-side substations, industrial plants, residential / industrial areas, underground routes and ducts; not a dynamic crane cable.



The source application covers underground and duct routes; calculate the actual formation, drainage and thermal environment.

Port-engineering boundary: the shore-side feeder may be fixed MV infrastructure; a moving STS / RTG travel route requires a dedicated dynamic cable design.

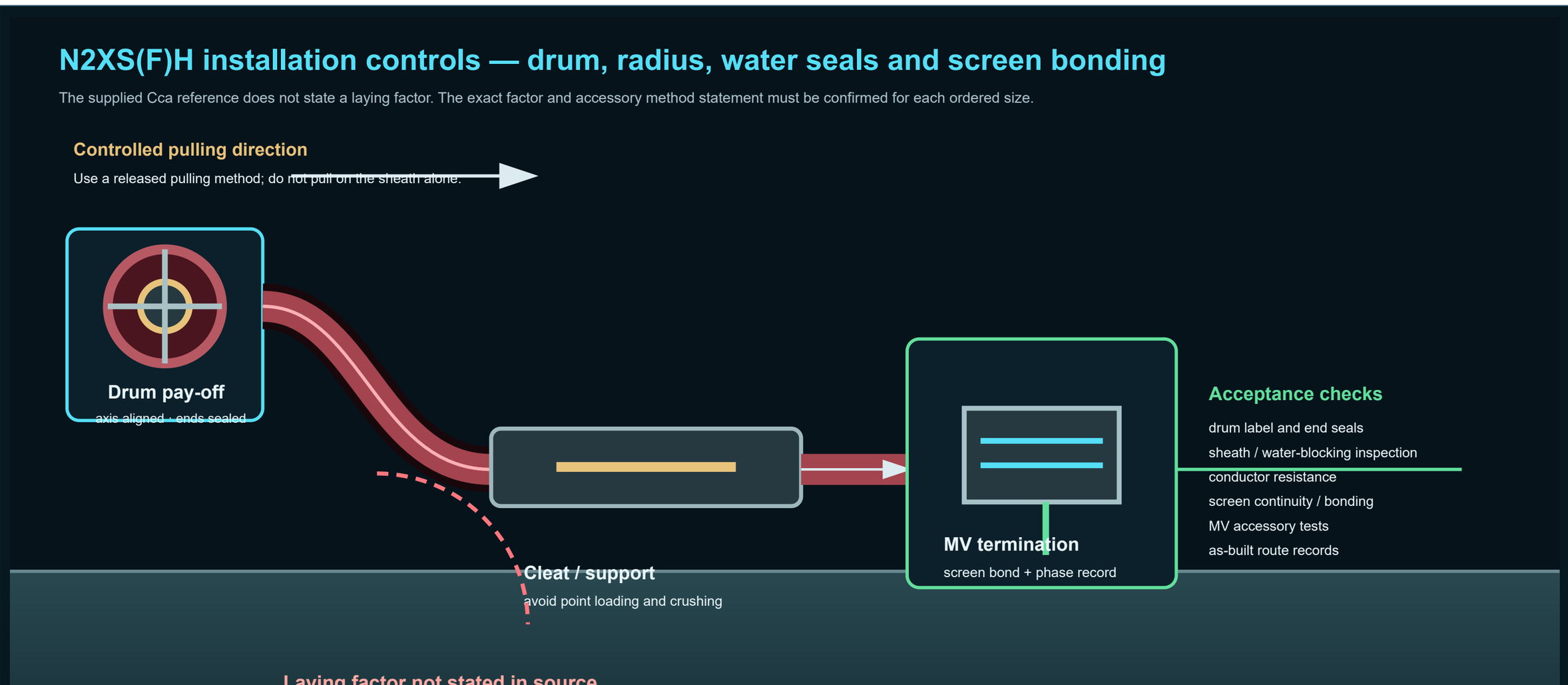
Substation and switchgear
Use matched MV terminations and screen-bonding hardware. Confirm phase formation, clearances, induced current, touch-voltage design and accessory heat.

Underground and duct routes
Use the water-blocking feature as part of a complete route design: drainage, duct fill, pulling method, sidewall pressure, end seals, joints, water level and thermal soil parameters.

Industrial plant and port shore-side feeders
UV resistance, rodent protection and LSZH construction can be useful in demanding fixed routes. Chemical exposure, impact, vibration, fire compartmentation and maintenance access still require review.

Moving crane equipment
Do not place this fixed-installation reference into a reeling, festoon or drag-chain route without a separate dynamic design. Travel speed, acceleration, torsion, cycles, rollers and winding geometry govern that selection.

11. Handling, bending and termination



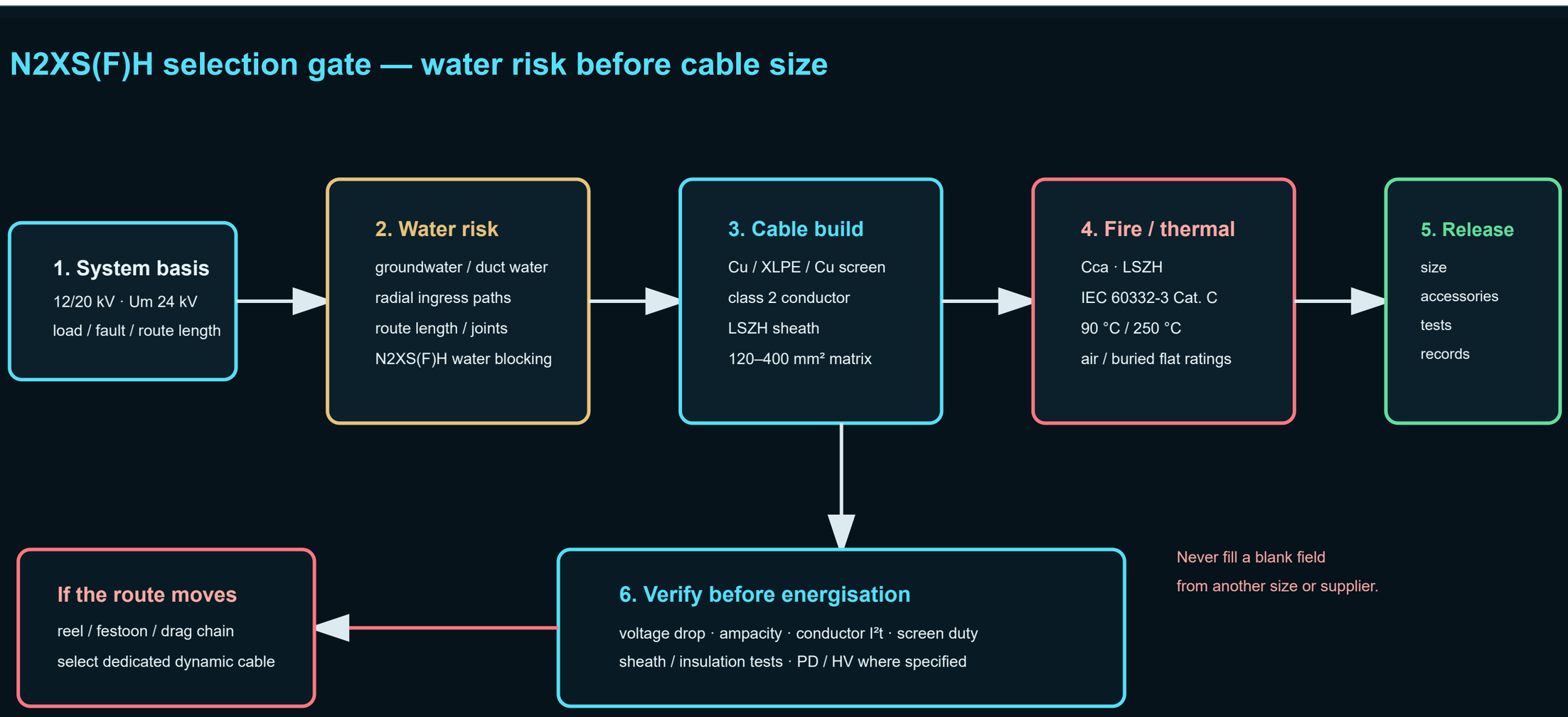
1. Confirm drum label, Nexans reference or Feichun product code, cable length, end seals, outside diameter and delivered mass before unloading.
2. Obtain and use the released bending factor. The supplied Cca reference does not state a laying factor; no bending radius is derived below. Obtain the released factor and accessory instructions for the ordered size.
3. Align the drum, pay off in the marked direction and prevent reverse winding, flange impact, uncontrolled twist and local sheath abrasion.
4. Use a controlled pulling method. Verify pulling load, sidewall pressure, roller spacing, entry geometry and minimum radius from the current method statement.
5. Keep cable ends sealed during storage and installation. Water blocking cannot compensate for open ends, damaged sheath or contaminated joint interfaces.
6. Prepare semiconducting screens and XLPE interfaces with controlled tools and dimensions. Termination workmanship is part of dielectric reliability.
7. Bond the metallic screen according to the earthing design. Verify continuity, bonding arrangement, induced-current assumptions and termination torque.
8. Before energisation, complete conductor resistance, screen continuity, insulation / sheath tests, MV withstand or partial-discharge tests where specified, phase identification, accessory inspection, fire documentation and as-built records.

Cross section	Nominal outer diameter	Derived circumference πD	Derived perimeter	Interpretation
120 mm²	32.6 mm	π × 32.6 mm	**102.4 mm**	Geometry only; not a bending-radius value
185 mm²	34.3 mm	π × 34.3 mm	**107.8 mm**	Geometry only; not a bending-radius value
300 mm²	39.7 mm	π × 39.7 mm	**124.7 mm**	Geometry only; not a bending-radius value
400 mm²	42.3 mm	π × 42.3 mm	**132.9 mm**	Geometry only; not a bending-radius value

Movement boundary: A laying factor is not stated in this Cca reference. It does not establish continuous-flex, torsion, festoon, reel or drag-chain performance. Select a dedicated dynamic cable when the route moves repeatedly.

12. Selection comparison for engineers

Requirement	N2XS(F)H reference	Comparison / risk	Engineering decision
Wet underground or duct route	Radial and longitudinal water blocking stated; longitudinally watertight: Yes.	Stronger water-management basis than a construction where water blocking is not stated; drainage and end sealing are still required.	Strong candidate subject to current test evidence.
12/20 kV fixed distribution	Cu / XLPE / copper screen / LSZH, IEC 60502-2 listed.	Voltage class and accessory system must be matched; screen bonding and fault duty are not optional.	Suitable subject to calculation and accessory approval.
Fire-sensitive industrial route	Cca title; IEC 60332-3 Cat. C; IEC 60754-1/-2; IEC 61034-2; LSZH.	Fire class, test references and route fire strategy must not be collapsed into one marketing label.	Use current declaration for exact size.
High-current feeder	120–400 mm² matrix with air and buried flat ratings.	Ratings change with ambient, soil, depth, grouping, spacing, screen losses and duct thermal resistance.	Select after thermal study.
Port shore-side fixed feeder	Potentially relevant to fixed substation, duct and industrial routes.	Salt atmosphere, flooding, UV, rodents, impact, fire compartments and maintenance access require a project review.	Confirm environmental construction.
Shipboard, submarine or moving crane route	Not established by this fixed-installation reference.	Special standards, dynamic cycles, torsion, reeling geometry and accessory design are different.	Select a dedicated cable family.



13. Failure mode and effects analysis

Radial sheath damage: water reaches the screen region; verify sheath inspection, repair criteria, route exposure and test evidence.

Longitudinal propagation: a local entry becomes a long-route contamination path; keep ends sealed and verify joints and water-blocking continuity.

Wrong ampacity: an air or buried flat value is copied into another formation, ambient or soil condition.

Screen overload: conductor short-circuit data is available but screen fault duty is not stated in the supplied matrix; close the screen I²t before release.

Radius violation: a trench corner, roller or gland bends the cable below the controlled factor for the ordered outside diameter.

Termination damage: semiconducting screen or XLPE interfaces are prepared outside the kit dimensions, increasing partial-discharge risk.

Fire-class substitution: Cca is expanded to unprovided sub-classes, or LSZH is treated as proof of a complete CPR declaration.

Dynamic misuse: a fixed N2XS(F)H cable is installed in a reel, festoon, drag chain or crane travel system because its sheath appears robust.

14. Feichun Cable 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.

For a Feichun N2XS(F)H release
Confirm product code, 12/20 (24) kV rating, conductor area, outside diameter, mass, DCR, reactance, voltage drop, formation ratings, conductor and screen fault duty, water-blocking construction, fire class, LSZH compounds and accessory compatibility.

Certification is configuration-specific
Certification capability does not make every N2XS(F)H size automatically Cca, IEC 60502-2 compliant, IECEx, ATEX, EAC or fire-certified. The exact cable, test report, declaration and market documentation must match.

Water-blocking dossier
The controlled release should identify radial and longitudinal water-blocking materials, screen construction, end treatment, joint compatibility, test method, acceptance criteria and revision status.

Feichun engineering value
Feichun can develop the N2XS(F)H architecture as a water-aware, fire-performance MV platform while adapting conductor, screen, sheath, dimensions and project testing to the actual route instead of copying a reference label.

Release condition: this article does not invent a Feichun certificate number, notified body, screen fault current, drum dimension, water-blocking test result or product-specific DoP. Values not stated for the Feichun configuration must be confirmed in the current controlled technical file.

15. Source map and data-status audit

Source	Use in this article	Status and limitation
Nexans Türkiye N2XS(F)H 12/20 kV - Cca family page	Product title, radial and longitudinal water-blocking description, IEC 60502-2 listing, application, construction, characteristics and family references.	Manufacturer family reference; confirm current availability, revision and Feichun configuration separately.
Nexans Türkiye N2XS(F)H 12/20 kV Cca technical PDF	Cross-check of the two-page family PDF, construction, characteristic fields and product list.	A family PDF; do not silently generalise revision-specific fields without confirming the ordered item.

Source	Use in this article	Status and limitation
Nexans Türkiye CPR Declaration of Performance	Official family DoP record for Cca-s1,d2,a1 according to EN 50575:2014+A1:2016 and the listed product references.	Use only for the exact ordered product and current declaration; it does not create a Feichun certificate.
IEC 60754-1; IEC 60754-2; IEC 61034-2	Official standard records for halogen-acid-gas content, gas acidity / conductivity and smoke-density test context.	Test references only; the product-specific compound, test report and project fire requirements control.
IEC 60502-2 official consolidated publication record	Standard-scope review for extruded-insulation cables from 6 kV up to 30 kV, fixed installations and water-ingress considerations.	Project adoption and current controlled edition must be checked before a conformity claim.
IEC 60332-3-24:2018 official publication record	Category C bunched-cable vertical flame-spread test context.	Test method reference; it is not itself a CPR Cca declaration.
User-supplied reference record	Complete 120–400 mm² matrix, source metadata, fire references, operating temperatures, water-tightness claim and construction text reproduced in this article.	Preserved as supplied; drawings, dimensions, weights and ratings remain subject to current document confirmation.

This article is for preliminary engineering, technical search and comparison. The final Feichun N2XS(F)H 12/20 kV - Cca release must be checked against the current product data sheet, water-blocking test report, fire declaration, cable accessories, installation formation, project fire strategy and local authority requirements.

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This article separates source values, derived checks and Feichun project-confirmation values. Missing fields are not filled from another supplier or cable size.

FEICHUN-N2XSFH-12-20KV-CCA-ENGINEERING-EN · 03 August 2026