Product Description

NFA2XSY-T Medium Voltage Overhead Twisted Cable is designed for overhead power distribution networks. The cable consists of three XLPE-insulated aluminium phase conductors with semi-conductive conductor and insulation screens, copper tape metallic screening, and an outer PVC sheath.

The three phase conductors are assembled with a steel messenger conductor to form a twisted overhead cable system, providing mechanical support and reliable electrical performance for medium-voltage distribution applications.

The cable is designed for overhead installation and is manufactured in accordance with the applicable requirements of SPLN 43-5, subject to the specified cable construction and project requirements.

Applications

- Medium-voltage overhead power distribution networks.
- Electrical distribution systems in residential and urban areas.
- Overhead distribution lines supported by steel messenger wires.
- Utility distribution networks and infrastructure projects.
- Overhead installations exposed to outdoor environmental conditions.

Cable Construction







1. Phase Conductor

Stranded, compacted circular aluminium conductors. The internal interstices of the conductors are filled with water-blocking compound to prevent water ingress through the conductor during storage, handling, installation and operation.

2. Conductor Screen

Extruded semi-conductive compound with a minimum thickness of 0.5 mm.

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Maximum volume resistivity:

- 5,000 Ω·cm at 20°C
- 25,000 Ω·cm at 90°C

3. Insulation

Extruded XLPE insulation with a high degree of cross-linking, free from contaminants and air voids, manufactured using a dry-curing process.

4. Insulation Screen

Extruded semi-conductive compound with a minimum thickness of 0.5 mm.

Maximum volume resistivity:

- 5,000 Ω·cm at 20°C
- 25,000 Ω·cm at 90°C

The insulation screen is tightly fitted to the insulation to eliminate air voids and is designed to be easily hand-stripped during installation.

5. Metallic Screen

Copper tape applied over the insulation screen, with a specified thickness ranging from 0.1 mm to 0.3 mm.

6. Outer Sheath

Extruded black PVC sheath suitable for exposure to sunlight and local atmospheric conditions.

7. Steel Messenger

Steel messenger conductor serving as the mechanical support element for the overhead twisted cable assembly. Messenger sizes are available according to the cable configuration.

Special Features Available on Request

- Oil-resistant cable
- UV-resistant cable
- Flame retardant – Category A, B or C
- Flame retardant – Non-category
- Heat-resistant cable
- Anti-termite protection

Conductor Shape

Aluminium phase conductors with nominal cross-sectional areas from 35 mm² to 300 mm² can be supplied in compacted circular stranded conductor form, subject to the applicable design requirements.

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Cable Size

Available configurations:

- NFA2XSY-T 3 × 50/16 + 50 mm²
- NFA2XSY-T 3 × 70/16 + 50 mm²
- NFA2XSY-T 3 × 95/16 + 50 mm²
- NFA2XSY-T 3 × 120/16 + 50 mm²
- NFA2XSY-T 3 × 150/25 + 50 mm²
- NFA2XSY-T 3 × 185/25 + 50 mm²
- NFA2XSY-T 3 × 240/25 + 50 mm²
- NFA2XSY-T 3 × 50/16 + 95 mm²
- NFA2XSY-T 3 × 70/16 + 95 mm²
- NFA2XSY-T 3 × 95/16 + 95 mm²
- NFA2XSY-T 3 × 120/16 + 95 mm²
- NFA2XSY-T 3 × 150/25 + 95 mm²
- NFA2XSY-T 3 × 185/25 + 95 mm²
- NFA2XSY-T 3 × 240/25 + 95 mm²

Other conductor sizes and messenger configurations are available upon request.

Technical Data

Phase Conductor Technical Data

Parameter	Unit	Technical Data
Nominal phase conductor area	mm²	50, 70, 95, 120, 150, 185, 240
Approx. conductor diameter	mm	According to conductor size
Maximum DC conductor resistance at 20°C	Ω/km	According to conductor size
Nominal insulation thickness	mm	5.5
Nominal sheath thickness	mm	2.5

Steel Messenger Technical Data

Parameter	Unit	Technical Data
Messenger conductor	—	Steel messenger
PVC insulation thickness	mm	1.2
Messenger outer diameter	mm	11.6, 13.4, 15.2

Cable Performance

The cable is designed for medium-voltage overhead distribution systems with water-blocking protection, XLPE insulation, copper tape screening and an outdoor-resistant PVC sheath.

Detailed electrical and mechanical performance values are provided in the technical data table below.

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Technical Specification Table

Nominal cross sectional area	PHASE	mm2	35	50	70	95	120		150		
	MESSENGER	mm2	50	50	50	50	50	70	50	70	95
Phase	Approx. Conductor diameter	mm	6,8	7,9	9,6	11,3	12,7		14		
	Max. DC Cond resistance at 20 C	Ohm/km	0,868	0,641	0,443	0,32	0,253		0,206		
	Nominal Insulation thicknes	mm	5,5	5,5	5,5	5,5	5,5		5,5		
	Min. DC resistance at 20 C	m.ohm.km	4400	4100	3600	3200	3000		2800		
	Nominal sheath thickness	mm	2,5	2,5	2,5	2,5	2,5		2,5		
	Outer Diameter	mm	27,1	28,2	29,8	31,5	32,9		34,2		
Steel Messenger	PVC ins. Thickness	mm	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
	Outer Diameter	mm	11,6	11,6	11,6	11,6	11,6	13,4	11,6	13,4	15,2
Overall diameter	Approx.	mm	58,4	60,8	64,3	68	71,1	71,1	74	74	74
Cable Net. Weight	Approx.	kg/km	2920	3128	3455	3829	4172	4357	4735	4920	5136
Standar length per reel		m	500	500	500	500	500	500	500	500	500
Minimum bending radius		mm	701	730	772	816	853	853	888	888	888
Current carrying	at 20 C	A	130	159	193	240	277	277	326	326	326
capacity in air	at 40 C		110	134	163	203	234	234	275	275	275
Short circuit current at 1 sec.		kA	3,2	4,6	6,4	8,7	11	11	13,8	13,8	13,8
AC Voltage test		kV/5 Min	30	30	30	30	30	30	30	30	30
Calculated breaking force of Steel Messenger		kN	62	62	62	62	62	89	62	89	122

Note: The original source table contains inconsistent column alignment between phase conductor sizes, messenger sizes and technical parameters. Values above are preserved from the source and should be confirmed against the manufacturer's original technical specification before publication.

Manufacturing & Customization

Qingzhou Cable manufactures overhead medium-voltage cable solutions for utility distribution networks, infrastructure projects and electrical contractors.

Cable configurations can be customized according to:

- Required conductor cross-sectional area
- Steel messenger size
- Cable construction and screening
- PVC sheath requirements
- Applicable standards and project specifications
- Reel length and packaging requirements

Frequently Asked Questions

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1. What is NFA2XSY-T overhead twisted cable used for?

NFA2XSY-T is used for medium-voltage overhead power distribution networks. It combines insulated phase conductors with a steel messenger for overhead installation.

2. What is the cable construction of NFA2XSY-T?

The cable consists of compacted stranded aluminium conductors, semi-conductive conductor screens, XLPE insulation, semi-conductive insulation screens, copper tape metallic screens, PVC outer sheaths and a steel messenger conductor.

3. Does NFA2XSY-T cable include water-blocking protection?

Yes. Water-blocking compound is applied within the conductor interstices to help prevent water ingress through the conductor.

4. Is NFA2XSY-T suitable for outdoor installation?

Yes. The cable features an outer PVC sheath designed for exposure to sunlight and outdoor atmospheric conditions.

5. Can NFA2XSY-T cable be customized?

Yes. Conductor sizes, messenger configurations, sheath properties, reel lengths and other project requirements can be customized upon request.

6. What special properties are available?

Oil resistance, UV resistance, flame retardancy, heat resistance and anti-termite protection can be provided subject to the specified design.

7. What reel lengths are available?

The source specification lists a standard reel length of 500 metres. Other reel lengths may be discussed according to project requirements.

8. Which standard does NFA2XSY-T cable follow?

The product is identified as NFA2XSY-T according to the SPLN 43-5 specification. The applicable standard edition and detailed compliance requirements should be confirmed for each project.

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