Product Overview

QZ Cable supplies aluminium overhead conductors designed for overhead power transmission and distribution networks. The product range includes A-type all-aluminium conductors and steel-reinforced aluminium conductors with different corrosion-protection and lubrication designs.

Manufactured in accordance with applicable technical requirements of GOST 839-2019, these conductors are available in different cross-sectional areas and constructions to meet the mechanical, electrical and environmental requirements of overhead line projects.

The range includes:

- **A Conductor:** Stranded aluminium conductor without a steel core.
- **AS Conductor:** Aluminium conductor reinforced with a galvanized steel core.
- **ASK Conductor:** Steel-reinforced aluminium conductor with a PET-film-insulated steel core and protective lubrication system.
- **ASKP Conductor:** Steel-reinforced aluminium conductor with protective grease filling in the inter-wire spaces of the conductor, excluding the outer surface.

Other related configurations, including ASKS, may also be considered according to project requirements and confirmed manufacturing specifications.

1. A-Type Aluminium Conductor

A-type conductors consist of stranded aluminium wires and are used in overhead power lines where an aluminium-only conductor design is suitable.

Construction:

- Conductive material: Aluminium wires
- Conductor configuration: Concentric stranded
- No steel reinforcing core
- Available in different strand numbers and cross-sectional areas

Typical applications:

- Overhead power distribution lines
- Electrical networks in suitable atmospheric environments
- Projects requiring aluminium-only overhead conductors

2. AS-Type Aluminium Conductor Steel Reinforced

AS conductors consist of aluminium wires stranded around a galvanized steel core. The aluminium wires provide electrical conductivity, while the steel core increases the mechanical strength of the conductor.

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Construction:

- Conductive part: Stranded aluminium wires
- Reinforcing part: Galvanized steel wires
- Steel core configurations: Single-wire or stranded designs
- Core and aluminium layers selected according to the required conductor design

Typical applications:

- Overhead transmission and distribution lines
- Networks requiring additional tensile strength
- Lines operating in moderate and cold climatic conditions, subject to project specifications

3. ASK-Type Corrosion-Protected Conductor

ASK conductors are based on the AS steel-reinforced aluminium conductor design, with additional protection for the steel core.

The steel core is protected by two layers of polyethylene terephthalate (PET) film. For applicable stranded-core constructions, neutral high-temperature-resistant grease is also used as part of the protection system.

Key construction features:

- Stranded aluminium conductive layers
- Galvanized steel reinforcing core
- Two-layer PET film protection around the steel core
- Neutral high-temperature-resistant grease for applicable core constructions

Typical applications:

- Coastal overhead power lines
- Areas exposed to saline environments
- Industrial and polluted atmospheric conditions
- Projects requiring enhanced protection of the steel core

4. ASKP-Type Grease-Filled Conductor

ASKP conductors are based on the AS design, with neutral high-temperature-resistant grease filling the inter-wire spaces throughout the conductor, except for the outer surface.

This construction provides an additional protective barrier against moisture and corrosive substances entering the conductor.

Key construction features:

- Stranded aluminium conductive part
- Galvanized steel reinforcing core

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- Neutral high-temperature-resistant grease filling
- Grease-filled internal inter-wire spaces
- Outer conductor surface remains unfilled

Typical applications:

- Coastal and marine environments
- Salt lake regions
- Industrial areas with corrosive atmospheric conditions
- Regions with saline soils or sand

Key Features and Benefits

- **Electrical conductivity:** Aluminium strands provide the current-carrying function.
- **Mechanical reinforcement:** Galvanized steel cores provide additional tensile strength.
- **Corrosion protection options:** PET film and protective grease systems are available in designated conductor designs.
- **Flexible construction:** Different aluminium and steel strand combinations can be selected according to project requirements.
- **Overhead line applications:** Suitable configurations are available for power transmission and distribution projects.

Applicable Standards

- GOST 839-2019 – Bare conductors for overhead power lines
- GOST 9850 – Galvanized steel wire, where applicable
- GOST 24234 – Polyethylene terephthalate film, where applicable

The applicable standard edition and material requirements should be confirmed for each order.

Technical Specifications

Parameter	A	AS	ASK	ASKP
Conductive material	Aluminium	Aluminium	Aluminium	Aluminium
Reinforcing core	None	Galvanized steel	Galvanized steel	Galvanized steel
PET film protection	No	To be confirmed by design	Two-layer protection	Not specified as the defining feature
Protective grease	No	According to core design	According to core design	Internal conductor spaces
Conductor construction	Stranded aluminium	Aluminium + steel	Aluminium + protected steel core	Aluminium + steel with grease filling
Reference standard	GOST 839-2019	GOST 839-2019	GOST 839-2019	GOST 839-2019

Reference dimensional ranges:

- A-type conductor: 10–1500 mm²

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- AS, ASK and ASKP family: 10–1250 mm²

Actual available sizes, strand combinations, outer diameters, DC resistance and rated tensile strength depend on the selected design and applicable standard.

A wires

Nominal conductor cross-section,mm²	Number of wires	Wire diameter,mm	Conductor diameter,mm	Construction length,m
10	7	1,35	4,05	3000
16	7	1,7	5,1	3000
25	7	2,13	6,39	3000
35	7	2,5	7,5	3000
50	7	3,0	9	3000
70	7	3,55	10,65	2000
95	7	4,1	12,3	1500
120	19	2,8	14	2000
150	19	3,15	15,75	2000
185	19	3,5	17,5	2000
240	19	4,0	20	2000
300	37	3,15	22,05	2000
400	37	3,66	25,62	1500
500	37	4,15	29,05	1500
600	61	3,5	31,5	1200
700	61	3,8	34,2	1000

AC, ASK, ASKP, and ASKS wires

Cross-section,mm²	Aluminum part of the conductor		Steel core		Outer diameter,mm	Tensile strength of the conductor,not less than N	Construction length,not less than m
	Number of wires	Wire diameter	Number of wires	Wire diameter			
16 / 2,7	6	1,85	1	1,85	5,6	6220	3000
25 / 4,2	6	2,3	1	2,3	6,9	9296	3000
35 / 6,2	6	2,8	1	2,8	8,4	13524	3000
50 / 8	6	3,2	1	3,2	9,6	17112	3000
70 / 11	6	3,8	1	3,8	11,4	24130	2000
95 / 16	6	4,5	1	4,5	13,5	33369	1500
120 / 19	26	2,4	7	1,85	15,2	41521	2000
120 / 27	30	2,2	7	2,2	15,4	49465	2000
150 / 19	24	2,8	7	1,85	16,8	46307	2000
150 / 24	26	2,7	7	2,1	17,1	52279	2000

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Cross-section,mm²	Aluminum part of the conductor		Steel core		Outer diameter,mm	Tensile strength of the conductor,not less than N	Construction length,not less than m
	Number of wires	Wire diameter	Number of wires	Wire diameter			
150 / 34	30	2,5	7	2,5	17,5	62643	2000
185 / 24	24	3,15	7	2,1	18,9	58075	2000
185 / 29	26	2,98	7	2,3	18,8	62055	2000
185 / 43	30	2,8	7	2,8	19,6	77767	2000
240 / 32	24	3,6	7	2,4	21,6	75050	2000
240 / 39	26	3,4	7	2,65	21,6	80895	2000
240 / 56	30	3,2	7	3,2	22,4	98253	2000
300 / 39	24	4	7	2,65	24	90574	2000
300 / 48	26	3,8	7	2,95	24,1	100623	2000
300 / 67	30	3,5	7	3,5	24,5	126270	2000
330 / 43	54	2,8	7	2,8	25,2	103784	2000
400 / 18	42	3,4	7	1,85	26	85600	1500
400 / 51	54	3,05	7	3,05	27,5	120481	1500
450 / 56	54	3,2	7	3,2	28,8	131370	1500
500 / 64	54	3,4	7	3,4	30,6	148257	1500

Why Choose QZ Cable?

QZ Cable is a cable and conductor manufacturer with a history dating back to 1969. We supply overhead conductor solutions for power transmission and distribution projects.

Our team can evaluate conductor requirements based on:

- Required nominal cross-sectional area
- Aluminium and steel strand configuration
- Required tensile strength
- Operating and environmental conditions
- Corrosion-protection and grease-filling requirements
- Applicable GOST or project-specific standards

Contact QZ Cable with your technical specification or project drawings to discuss a suitable conductor design and quotation.

Frequently Asked Questions

1. What is the difference between A and AS conductors?

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A conductors consist entirely of stranded aluminium wires. AS conductors combine aluminium conductive strands with a galvanized steel reinforcing core for additional mechanical strength.

2. What is the difference between AS, ASK and ASKP?

AS is the basic steel-reinforced aluminium design. ASK adds PET-film protection around the steel core and a specified lubrication system. ASKP uses protective grease in the internal inter-wire spaces of the conductor, excluding the outer surface.

3. Which conductor is suitable for coastal environments?

ASK and ASKP are designed with additional protective features for applications in corrosive environments. The final selection should consider the actual atmospheric conditions, project design and applicable technical requirements.

4. Can these conductors be manufactured in different sizes?

Conductor cross-sections, strand combinations and mechanical characteristics depend on the selected design. Please provide your required cross-section, conductor designation or technical drawing for evaluation.

5. Which standard applies to these conductors?

GOST 839-2019 is the principal reference standard in the supplied product documentation. Additional material standards and project-specific requirements should be confirmed before ordering.

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