Product Overview

PVC-Covered Aluminium Conductors are stranded overhead conductors featuring a PVC compound covering. They are developed primarily to provide additional protection for telecommunication lines crossed by power lines and to help reduce the risk of accidental short-period contact with low-voltage overhead lines.

These conductors are also used in corrosive environments and in applications where additional protection against faults caused by birds and tree branches is required.

QZ Cable manufactures PVC-covered conductors with stranded aluminium or aluminium conductor steel-reinforced (ACSR) constructions. Conductor sizes and configurations can be selected according to project requirements.

Applications

PVC-covered overhead conductors are used in applications such as:

- Low-voltage overhead power distribution lines.
- Power-line crossings over telecommunication lines.
- Overhead networks in areas with trees or bird activity.
- Power distribution installations in corrosive atmospheres.
- Existing overhead networks requiring an additional conductor covering.

Important: PVC covering does not make the conductor equivalent to a fully insulated power cable. Installation must follow the applicable electrical safety requirements, clearances and utility specifications.

Product Types

1. PVC-Covered Stranded Aluminium Conductors

The conductor consists of stranded aluminium wires with a PVC compound covering. Multiple conductor sizes and stranding configurations are available.

2. PVC-Covered ACSR Conductors

The conductor uses an aluminium stranded layer around a steel core, with a PVC covering. This construction combines the aluminium conducting component with the mechanical reinforcement of the steel core.

Construction

Component	Description
Conductor	Class 2 stranded aluminium conductor
Alternative construction	Aluminium conductor steel-reinforced (ACSR)
Covering	PVC compound

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Covering colour Black

Applicable Standards

The basic design is specified as:

- BS 6485:1999
- BS 215: Part 1

The applicable standard and construction should be confirmed against the project specification and required product type.

Technical Specifications

PVC-Covered Aluminium Stranded Conductors

Nominal Area (mm²)	Calculated Area (mm²)	No. of Wires	Wire Diameter (mm)	Diameter Column 1* (mm)	Nominal Breaking Load (kN)	Nominal DC Resistance at 20°C (Ω/km)	Approx. Weight (kg/km)	Approx. Overall Diameter (mm)
22	23.33	7	2.06	6.2	3.99	1.227	64	8.4
25	26.44	3	3.35	7.2	4.11	1.081	73	9.2
25	26.8	7	2.21	6.6	4.59	1.066	73	8.8
30	31.6	3	3.66	7.9	4.86	0.9082	86	10.1
35	37	7	2.59	7.8	6.03	0.7762	101	10.0
40	42.8	7	2.79	8.4	6.87	0.6689	117	10.6
50	52.83	7	3.10	9.3	8.28	0.5419	145	11.5
60	63.55	7	3.40	10.2	9.90	0.4505	174	12.4
70	73.55	7	3.66	11	11.34	0.3581	202	13.2
75	78.5	7	3.78	11.4	11.94	0.3644	215	13.6
80	84.1	7	3.91	11.7	12.78	0.3406	230	13.9
90	95.6	7	4.17	12.5	14.53	0.2994	262	14.7
100	106	7	4.39	13.21	16.00	0.2702	290	15.4
100	106.6	19	2.67	13.4	17.42	0.2704	293	15.6
125	132	7	4.90	14.7	19.94	0.2169	361	16.9
150	157.9	7	5.36	16.1	23.85	0.1813	432	18.3
150	157.6	19	3.25	16.3	27.70	0.1825	434	18.5
175	186	19	3.53	17.7	28.63	0.1547	512	19.9
200	213.2	19	3.78	18.9	32.40	0.1349	587	21.1
225	236.9	19	3.99	20	36.01	0.1211	652	22.2

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250	265.7	19	4.22	21.1	40.40	0.1083	731	23.3
300	322.7	19	4.65	23.3	48.70	0.08916	888	25.5
350	373.2	19	5.00	25	56.37	0.07711	1027	27.2
400	373.3	37	3.58	25.1	57.45	0.07741	1029	27.3
400	428.5	19	5.36	26.8	64.73	0.0671	1179	29.0
450	415.2	37	3.78	26.5	63.10	0.06944	1145	28.7
450	485.9	37	4.09	28.6	74.01	0.05931	1342	30.8
500	529.5	37	4.27	29.9	79.98	0.5441	1460	32.1
600	628.6	37	4.65	32.6	94.95	0.04588	1733	34.8
750	794.8	37	5.23	36.6	120.10	0.03627	2191	38.8

Note: The source table gives two diameter columns with unclear or duplicated headings. "Diameter Column 1" is retained as a neutral label pending confirmation of the original column definition.

PVC-Covered Aluminium Conductors, Steel Reinforced (ACSR)

Nominal Cross-Section (mm²)	Aluminium Wires (No./mm)	Steel Wires (No./mm)	DC Resistance at 20°C (Ω/km)	Breaking Load (kN)	Approx. Overall Diameter (mm)
25	6/2.36	1/2.36	1.093	9.61	10.7
50	6/3.35	1/3.35	0.5426	18.35	14.1
100	6/4.72	7/1.57	0.2733	32.7	18.2
150	30/2.59	7/2.59	0.1828	69.2	22.2
150	18/3.35	1/3.35	0.1815	35.7	20.8
175	30/2.79	7/2.79	0.1576	79.8	23.6
175	18/3.61	1/3.61	0.1563	41.1	22.1
200	3/3.0*	7/3.0	0.1363	92.25	25
200	18/3.86	1/3.86	0.1367	46.55	23.3

Key Features

- **PVC covering:** Black PVC compound covering for the specified overhead conductor applications.
- **Multiple conductor configurations:** Available in stranded aluminium and ACSR constructions.
- **Various cross-sectional areas:** Aluminium stranded conductor data covers nominal sizes from 22 to 750 mm².
- **Overhead network applications:** Suitable for specified low-voltage distribution and overhead line installations.
- **Project-based manufacturing:** Conductor construction and product requirements can be reviewed against customer drawings and technical specifications.

Manufacturing and Customization

QZ Cable can review project requirements for PVC-covered aluminium conductors and PVC-covered ACSR conductors.

When requesting a quotation, please provide:

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- Conductor type: stranded aluminium or ACSR.
- Nominal cross-sectional area.
- Required conductor stranding.
- PVC covering requirements and colour.
- Applicable standard and project specification.
- Required quantity and delivery location.

Contact QZ Cable for technical information and a quotation based on your project requirements.

Why Choose QZ Cable?

- **Manufacturer Since 1969:** Qingzhou Cable is part of QZ Group, with experience in cable and conductor manufacturing.
- **AAC and ACSR Options:** Choose between all-aluminium and steel-reinforced conductor designs.
- **PVC Covering:** Protective PVC covering manufactured according to agreed technical requirements.
- **Customized Production:** Conductor cross-sections, strand configurations and covering dimensions can be tailored to project specifications.
- **Standard-Based Manufacturing:** Production according to BS 6485 or other agreed standards, subject to technical confirmation.
- **Factory-Direct Supply:** Supporting utilities, EPC contractors, distributors and bulk buyers worldwide.

Contact QZ Cable for technical datasheets, construction details and quotations for PVC-covered AAC and ACSR overhead conductors.

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