Product Description

High Voltage Aerial Bundled Cables (HV ABC) manufactured in accordance with AS/NZS 3599.2 are designed for overhead power distribution networks operating at 6.35/11 kV and 12.7/22 kV. These cables feature aluminium conductors with XLPE insulation and supporting conductor systems designed for overhead installation.

Qingzhou Cable offers two configurations of AS/NZS 3599.2 HV ABC cables: non-metallic screened cables with an aluminium alloy 1120 support conductor, and metallic screened cables with copper wire screening and a galvanised steel catenary.

The non-metallic screened design is available with an optional HDPE sheath, while the metallic screened design incorporates copper wire screens and a galvanised steel catenary for its supporting arrangement.

These HV aerial bundled cables are suitable for overhead medium-voltage power distribution applications, with cable configurations and conductor sizes available according to project requirements and applicable specifications.

Applications

AS/NZS 3599.2 HV XLPE insulated aerial bundled cables are designed for overhead power distribution networks and high-voltage electrical infrastructure.

Typical applications include:

- Overhead medium-voltage distribution networks
- Utility power distribution systems
- Rural and urban electrical networks
- Overhead power supply for infrastructure projects
- Electrical network expansion and refurbishment projects
- Power distribution systems requiring aerial bundled cable configurations

Cable Types

Non-Metallic Screened HV ABC

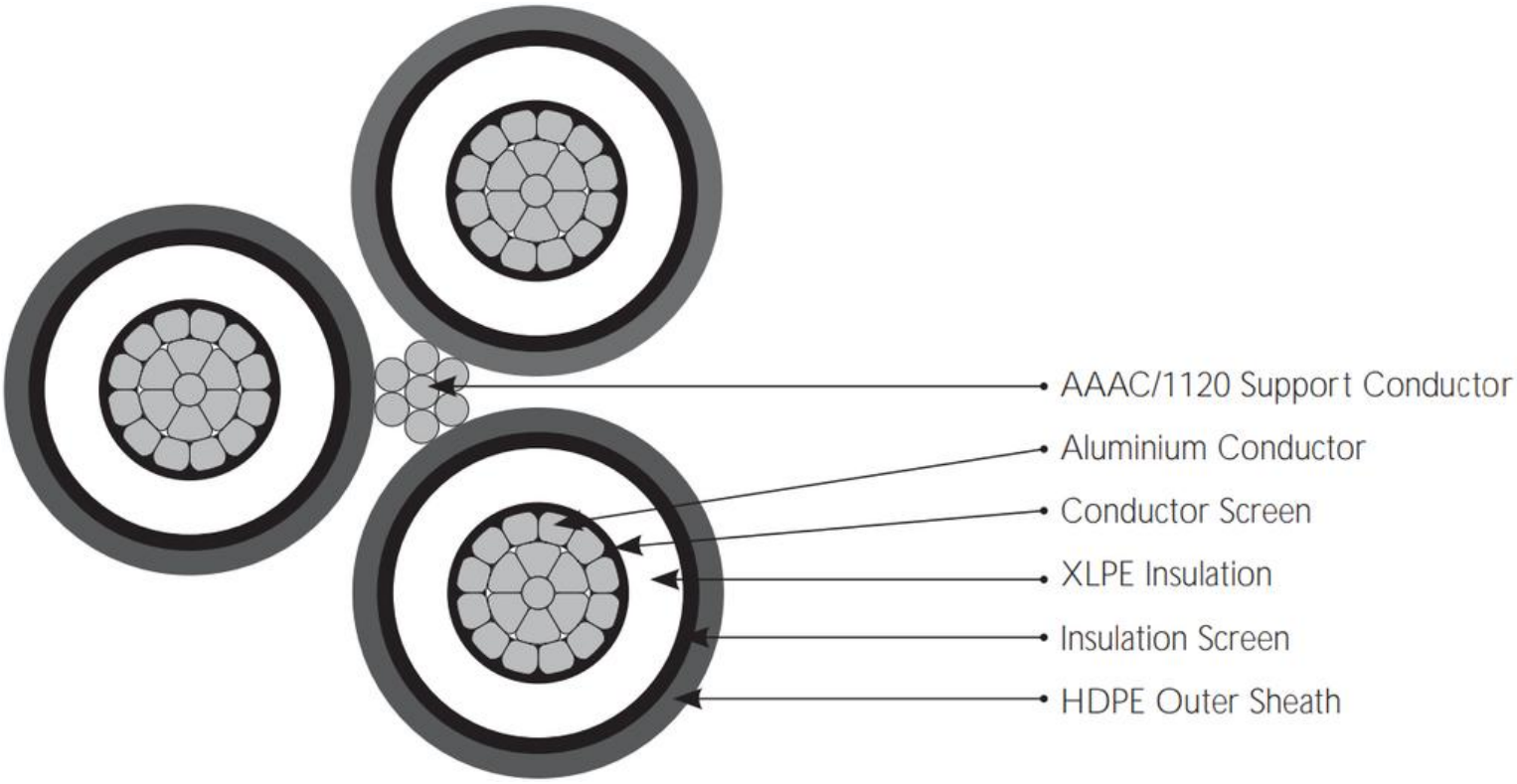
- XLPE insulated aluminium conductors
- Non-metallic insulation screen
- Aluminium alloy 1120 support conductor
- Optional HDPE sheath
- Voltage ratings: 6.35/11 kV and 12.7/22 kV

Metallic Screened HV ABC

- XLPE insulated aluminium conductors
- Copper wire screening
- Galvanised steel catenary
- Voltage ratings: 6.35/11 kV and 12.7/22 kV

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Cable Construction



Non-Metallic Screened HV ABC Cable

- Conductor: Aluminium
- Conductor insulation: XLPE
- Insulation screen: Non-metallic screen
- Support conductor: Aluminium alloy 1120
- Outer sheath: HDPE available as an option
- Standard: AS/NZS 3599.2

Metallic Screened HV ABC Cable

- Conductor: Aluminium
- Conductor insulation: XLPE
- Metallic screen: Copper wires
- Outer sheath: As specified in the source construction
- Support system: Galvanised steel catenary
- Standard: AS/NZS 3599.2

Non-Metallic Screened HV ABC Cable – Physical Data

6.35/11 kV

XLPE insulated non-metallic screened aerial bundled cables with aluminium conductors and aluminium alloy 1120 support conductor.

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Nominal Conductor Area (mm²)	Nominal Conductor Diameter (mm)	Average Insulation Thickness (mm)	Nominal Diameter Over Insulation (mm)	Average Insulation Screen Thickness (mm)	Nominal Diameter Over Core (mm)	AAAC/1120 Support Conductor (No./mm)	Support Diameter (mm)	Nominal Overall Diameter (mm)	Approx. Mass (kg/km)
35	6.9	3.4	14.9	1	17.1	7/4.75	14.3	48.4	1170
50	8.1	3.4	16.0	1	18.2	7/4.75	14.3	50.7	1320
70	9.6	3.4	17.6	1	19.8	7/4.75	14.3	53.9	1560
95	11.4	3.4	19.3	1	21.5	7/4.75	14.3	57.3	1860
120	12.8	3.4	20.7	1	22.9	19/3.50	17.5	63.3	2280
150	14.2	3.4	22.1	1	24.3	19/3.50	17.5	66.2	2570
185	15.7	3.4	23.6	1	25.8	19/3.50	17.5	69.2	2890

12.7/22 kV

Nominal Conductor Area (mm²)	Nominal Conductor Diameter (mm)	Average Insulation Thickness (mm)	Nominal Diameter Over Insulation (mm)	Average Insulation Screen Thickness (mm)	Nominal Diameter Over Core (mm)	AAAC/1120 Support Conductor (No./mm)	Support Diameter (mm)	Nominal Overall Diameter (mm)	Approx. Mass (kg/km)
35	6.9	5.5	19.2	1	21.4	7/4.75	14.3	57.1	1540
50	8.1	5.5	20.3	1	22.5	7/4.75	14.3	59.3	1710
70	9.6	5.5	21.9	1	24.1	7/4.75	14.3	62.5	1990
95	11.4	5.5	23.6	1	25.8	7/4.75	14.3	66.0	2310
120	12.8	5.5	25.0	1	27.2	19/3.50	17.5	72.0	2760
150	14.2	5.5	26.4	1.1	28.8	19/3.50	17.5	75.2	3100
185	15.7	5.5	27.9	1.1	30.3	19/3.50	17.5	78.2	3460

AAAC/1120 Support Conductor Technical Data

Stranding & Wire Diameter (No./mm)	Nominal Overall Diameter (mm)	Cross-Sectional Area (mm²)	DC Resistance at 20°C (Ω/km)	Minimum Breaking Load (kN)	Highest Everyday Tension (kN)	Max. Working Tension (kN)	Modulus of Elasticity (GPa)	Coefficient of Linear Expansion (×10⁻⁶/°C)
7/4.75	14.3	124	0.239	27.1	4.1	13.6	59	23
19/3.50	17.5	182.8	0.163	41.7	6.3	20.9	56	23

Metallic Screened HV ABC Cable – Physical Data

6.35/11 kV – XLPE Insulated Metallic Screened Cable

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Part No.	Nominal Conductor Area (mm²)	Nominal Conductor Diameter (mm)	Average Insulation Screen Thickness (mm)	Copper Wire Screen Stranding (No./mm)	Nominal Diameter Over Screen (mm)	Average Sheath Thickness (mm)	Nominal Diameter Over Sheath (mm)	Galvanised Steel Catenary Stranding (No./mm)	Nominal Overall Diameter (mm)	Approx. Mass (kg/km)
AERMV3X35SCN11kV	35	6.9	0.8	24/0.85	19.2	1.8	23.5	19/2.00	57.1	2060
AERMV3X50SCN11kV	50	8.1	0.8	24/0.85	20.4	1.8	24.7	19/2.00	59.3	2230
AERMV3X70SCN11kV	70	9.6	0.8	24/0.85	22.0	1.8	26.3	19/2.00	62.5	2500
AERMV3X95SCN11kV	95	11.4	0.8	24/0.85	23.7	1.8	28.0	19/2.00	66.0	2820
AERMV3X120SCN11kV	120	12.8	0.8	24/0.85	25.1	1.8	29.4	19/2.00	68.8	3100
AERMV3X150SCN11kV	150	14.2	0.8	24/0.85	26.5	1.9	31.0	19/2.00	72.0	3440
AERMV3X185SCN11kV	185	15.7	0.8	24/0.85	28.0	1.9	32.5	19/2.00	75.0	3800

12.7/22 kV – XLPE Insulated Metallic Screened Cable

Part No.	Nominal Conductor Area (mm²)	Nominal Conductor Diameter (mm)	Copper Wire Screen Stranding (No./mm)	Nominal Diameter Over Screen (mm)	Average Sheath Thickness (mm)	Nominal Diameter Over Sheath (mm)	Galvanised Steel Catenary Stranding (No./mm)	Catenary Diameter (mm)	Nominal Overall Diameter (mm)	Approx. Mass (kg/km)
AERMV3X35SCN22kV	35	6.9	24/0.85	23.5	1.8	27.8	19/2.00	10.0	65.7	2500
AERMV3X50SCN22kV	50	8.1	24/0.85	24.7	1.8	29.0	19/2.00	10.0	68.0	2690
AERMV3X70SCN22kV	70	9.6	24/0.85	26.3	1.9	30.8	19/2.00	10.0	71.6	3020
AERMV3X95SCN22kV	95	11.4	24/0.85	28.0	1.9	32.5	19/2.00	10.0	75.0	3370
AERMV3X120SCN22kV	120	12.8	24/0.85	29.4	2.0	34.1	19/2.00	10.0	78.2	3720
AERMV3X150SCN22kV	150	14.2	24/0.85	30.8	2.0	35.5	19/2.00	10.0	81.0	4060
AERMV3X185SCN	185	15.7	24/0.85	32.3	2.1	37.2	19/2.00	10.0	84.4	4470

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Part No.	Nominal Conductor Area (mm²)	Nominal Conductor Diameter (mm)	Copper Wire Screen Stranding (No./mm)	Nominal Diameter Over Screen (mm)	Average Sheath Thickness (mm)	Nominal Diameter Over Sheath (mm)	Galvanised Steel Catenary Stranding (No./mm)	Catenary Diameter (mm)	Nominal Overall Diameter (mm)	Approx. Mass (kg/km)
22kV										

Applicable Standard

Standard	Description
AS/NZS 3599.2	XLPE insulated aerial bundled cables for high-voltage overhead distribution applications

The cable designation and standard reference are based on the source specification. Detailed compliance, testing and construction requirements should be confirmed against the applicable edition of AS/NZS 3599.2 and project specifications.

Manufacturing & Customization

Qingzhou Cable manufactures overhead conductors and power cables for power transmission and distribution projects. Cable configurations, conductor sizes and technical requirements can be reviewed according to customer drawings, applicable standards and project specifications.

For technical specifications, project quotations or customized cable requirements, please contact our sales team.

Frequently Asked Questions (FAQ)

1. What is AS/NZS 3599.2 HV ABC cable?

AS/NZS 3599.2 HV ABC cable is a high-voltage aerial bundled cable designed for overhead power distribution networks. It incorporates XLPE insulation and supporting conductor arrangements for overhead installation.

2. What voltage ratings are available?

The specifications presented in this product range include 6.35/11 kV and 12.7/22 kV.

3. What types of AS/NZS 3599.2 HV ABC cables are available?

Two configurations are presented: non-metallic screened aerial bundled cable with an aluminium alloy 1120 support conductor, and metallic screened aerial bundled cable with copper wire screening and a galvanised steel catenary.

4. What is the support conductor used in non-metallic screened HV ABC cable?

The non-metallic screened cable uses an aluminium alloy 1120 support conductor. The source specification includes 7-wire and 19-wire configurations.

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5. What is the supporting arrangement for metallic screened HV ABC cable?

The metallic screened cable specification includes copper wire screening and a galvanised steel catenary.

6. Is an outer sheath available for non-metallic screened HV ABC cable?

The source specification indicates that an HDPE sheath is also available for the non-metallic screened cable configuration.

7. What standard does this cable comply with?

The cable is specified to AS/NZS 3599.2. The detailed construction and compliance requirements should be confirmed against the applicable standard edition and project requirements.

8. Can the cable be customized?

Cable specifications, conductor sizes, construction details and project requirements can be discussed with the manufacturer for confirmation based on the applicable specification and order requirements.

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