Product Overview

600V Covered Overhead Line Wire is designed primarily for secondary overhead electrical distribution networks.

The product consists of concentrically stranded aluminium or aluminium-alloy conductors, or ACSR conductors, covered with a weather-resistant polymer layer. Depending on the conductor type and project requirements, the covering material can be low-density polyethylene (LDPE), high-density polyethylene (HDPE), or cross-linked polyethylene (XLPE).

QZ Cable provides three main covered conductor configurations:

- AAC Covered Conductor – All Aluminium Conductor.
- AAAC Covered Conductor – All Aluminium Alloy Conductor.
- ACSR Covered Conductor – Aluminium Conductor Steel Reinforced.

Important Safety Information: Covered line wire is not an electrically insulated conductor. It must be treated as a bare conductor when installed. The protective covering does not make the conductor safe to touch.

Product Types

1. AAC Covered Conductor

AAC Covered Conductor uses concentrically stranded 1350-H19 aluminium wires with a protective polymer covering.

It is designed for overhead secondary distribution applications where an all-aluminium conductor is specified.

2. ACSR Covered Conductor

ACSR Covered Conductor consists of aluminium wires stranded around a steel core and covered with a weather-resistant polymer layer.

It combines an aluminium conducting component with a steel reinforcing core.

3. AAAC Covered Conductor

AAAC Covered Conductor uses concentrically stranded 6201-T81 aluminium alloy wires with a protective covering.

It is suitable for overhead distribution applications requiring an aluminium-alloy conductor construction.

Construction

Conductors

The conductor materials and constructions include:

- 1350-H19 aluminium wire.

★ Address: West Industrial Park, Zhulin Town, Gongyi City, Henan Province, China. ★
★ Tel:+86-371-5502-1747 Mob:+86-173-3570-4553 www.qzcablegroup.com E-mail: info@qzcablegroup.com ★

- 6201-T81 aluminium alloy wire.
- Aluminium conductor steel-reinforced (ACSR) construction.

Covering Materials

The covering materials listed in the supplied product specifications are:

- **LDPE:** Low-Density Polyethylene.
- **HDPE:** High-Density Polyethylene.
- **XLPE:** Cross-Linked Polyethylene.

The covering thickness and overall cable dimensions vary according to conductor size and product construction.

Applications

600V Covered Overhead Line Wire is primarily used for secondary overhead distribution lines.

Typical applications include:

- 600V overhead secondary distribution networks.
- Low-voltage overhead power distribution.
- Utility distribution lines.
- Overhead electrical networks requiring weather-resistant conductor covering.

The conductor must be installed and handled according to applicable overhead line regulations and electrical safety requirements.

Key Features and Benefits

Three Conductor Options

AAC, AAAC, and ACSR constructions are available to meet different conductor material and mechanical design requirements.

Multiple Covering Materials

LDPE, HDPE, and XLPE covering options are listed in the supplied technical specifications.

Weather-Resistant Covering

The polymer covering is designed to provide weather protection for overhead conductor applications.

Multiple Conductor Sizes

The supplied product range includes AWG and kcmil conductor sizes, with different stranding configurations.

Multiple Weight and Ampacity Options

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Technical data includes conductor weight, covered conductor weight by covering material, rated strength, and allowable ampacity.

Applicable Standards

The following standards may apply to the selected conductor and covering design:

Conductor Standards

- ASTM B230 – Aluminium 1350-H19 Wire for Electrical Purposes.
- ASTM B231 – Concentric-Lay-Stranded Aluminium Conductors.
- ASTM B232 – Concentric-Lay-Stranded Aluminium Conductors, Coated-Steel Reinforced (ACSR).
- ASTM B398 – Aluminium-Alloy 6201-T81 Wire for Electrical Purposes.
- ASTM B399 – Concentric-Lay-Stranded Aluminium-Alloy 6201-T81 Conductors.
- ASTM B498 – Zinc-Coated (Galvanized) Steel Core Wire for Use in ACSR Conductors, where applicable.

Covering Standards

- ANSI/ICEA S-70-547 – Weather-Resistant Polyolefin-Covered Wire and Cable.

The applicable conductor standard and covering standard should be specified separately. The selected PE, HDPE or XLPE compound must meet the requirements for the intended product design.

Technical Specifications

The following tables reproduce the supplied technical data. Covered conductor weights are shown separately for LDPE, HDPE, and XLPE covering options.

AAC Covered Overhead Line Wire

Code Name	Size (AWG/kcmil)	No. of Wires	Covering Thickness (mm)	Overall Diameter (mm)	Rated Strength (kg)	Aluminium Weight (kg/km)	LDPE Weight (kg/km)	HDPE Weight (kg/km)	XLPE Weight (kg/km)	Allowable Ampacity (A)
Plum	6	7	0.762	6.198	255	36.61	50.66	51.27	51.27	100
Apricot	4	7	0.762	7.239	400	58.19	75.57	76.33	76.33	135
Peach	2	7	1.143	9.703	612	92.56	126.09	127.55	127.55	180
Nectarine	1	7	1.143	11.481	789	116.67	167.31	169.52	169.52	210
Quince	1/0	7	1.524	12.395	903	147.48	203.70	206.14	206.14	240
Haw	1/0	19	1.524	12.522	980	147.48	204.49	206.96	206.96	240
Orange	2/0	7	1.524	14.834	1,139	186.02	257.90	261.02	261.02	280
Ironwood	2/0	19	1.524	13.691	1,211	186.02	250.41	253.21	253.21	280
Fig	3/0	7	1.524	16.307	1,377	233.64	315.53	319.08	319.08	320
Lemon	3/0	19	1.524	14.986	1,501	233.64	306.53	309.70	309.70	320
Olive	4/0	7	1.524	16.307	1,728	296.14	378.04	381.58	381.58	370

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Pomegranate	4/0	19	1.524	16.459	1,823	296.14	379.09	382.69	382.69	370
Sassalras	250	19	1.524	17.628	2,043	348.68	439.88	443.84	443.84	420
Mulberry	266.8	19	1.524	17.653	2,182	372.19	463.59	467.55	467.55	460
Basswood	300	19	1.524	18.999	2,404	419.66	520.91	525.30	525.30	478
Anona	336.4	19	1.524	19.964	2,697	469.51	578.04	582.75	582.75	495
Chinquapin	350	19	1.524	20.269	2,790	488.12	598.98	603.79	603.79	525
Molles	397.5	19	2.032	22.454	3,123	555.08	707.29	713.88	713.88	550
Sumac	450	37	2.032	23.673	3,719	628.00	791.79	798.89	798.89	600
Huckleberry	477	37	2.032	24.257	3,810	665.21	834.63	841.98	841.98	610

ACSR Covered Overhead Line Wire

Code Name	Size (AWG/kcmil)	No. of Wires	Covering Thickness (mm)	Overall Diameter (mm)	Rated Strength (kg)	Aluminium Weight (kg/km)	LDPE Weight (kg/km)	HDPE Weight (kg/km)	XLPE Weight (kg/km)	Allowable Ampacity (A)
Walnut	6	6/1	0.762	6.553	540	36.46	69.94	71.43	71.43	105
Butternut	4	6/1	0.762	7.874	844	58.04	107.15	107.15	108.64	135
Hickory	4	7/1	0.762	8.052	1,070	58.04	120.54	122.03	123.52	135
Pignut	2	6/1	1.143	10.312	1,293	92.27	175.60	177.09	178.58	180
Beech	2	7/1	1.143	10.643	1,651	92.27	199.41	199.41	202.39	180
Chestnut	1	6/1	1.143	11.303	1,610	116.37	217.27	218.76	220.25	210
Almond	1/0	6/1	1.524	13.157	1,987	146.73	282.75	284.24	287.21	235
Pecan	2/0	6/1	1.524	14.402	2,404	184.98	348.23	349.72	349.72	290
Filbert	3/0	6/1	1.524	15.799	3,003	233.34	430.08	433.05	437.52	305
Buckeye	4/0	6/1	1.524	17.348	3,787	294.21	531.27	535.74	540.20	345
Hackberry	266.8	18/1	1.524	18.517	3,121	372.63	525.32	528.30	534.25	356

AAAC Covered Overhead Line Wire

Code Name	Size (AWG/kcmil)	No. of Wires	Covering Thickness (mm)	Overall Diameter (mm)	Rated Strength (kg)	Aluminium Weight (kg/km)	LDPE Weight (kg/km)	HDPE Weight (kg/km)	XLPE Weight (kg/km)	Allowable Ampacity (A)
Maple	6	7	0.762	6.553	503	42.41	59.53	61.01	61.01	78
Hornbeam	4	7	0.762	7.874	798	67.56	89.29	90.78	92.12	145
Linden	2	7	1.143	10.312	1,270	107.44	147.33	147.33	148.82	190
Oilnut	1/0	7	1.524	11.887	2,023	170.99	238.11	247.03	247.03	250
Waterash	2/0	7	1.524	14.402	2,445	215.63	291.68	302.01	302.01	290
Shellbark	3/0	7	1.524	15.799	3,080	271.59	358.65	370.55	370.55	335
Planetree	4/0	7	1.524	17.348	3,883	342.57	443.47	456.86	456.86	385

Technical Data Notes

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- The aluminium weight column represents the conductor weight listed in the supplied source.
- LDPE, HDPE, and XLPE columns represent the corresponding nominal covered conductor weights.
- Allowable ampacity values are reproduced from the supplied table. The source does not specify all calculation conditions, so these values should be treated as reference data rather than guaranteed ratings.
- Code names, conductor sizes, stranding, and other values are retained from the supplied data. Confirm the original manufacturer's catalogue before using them for a formal quotation or engineering approval.

Installation and Electrical Safety

Covered overhead line wire must be treated as a bare conductor during installation.

The polymer covering provides weather protection but does not constitute complete electrical insulation.

Installation should therefore follow the applicable overhead line construction and safety regulations, including:

- Maintaining required electrical clearances.
- Following approved installation and handling procedures.
- Using appropriate tools and equipment.
- Ensuring that installation is performed by qualified personnel.
- Never assuming that the covered conductor is safe to touch.

Why Choose QZ Cable?

QZ Cable is a cable and conductor manufacturer established in 1969 and part of QZ Group.

We support overhead distribution projects with conductor solutions based on customer drawings, technical specifications, and applicable standards.

- AAC, AAAC, and ACSR covered conductor options.
- LDPE, HDPE, and XLPE covering options.
- Multiple AWG and kcmil conductor sizes.
- Technical specification and drawing review.
- Manufacturer-direct supply for project and bulk requirements.

Frequently Asked Questions

1. What is covered overhead line wire?

It is an overhead conductor with a protective polymer covering, primarily used for secondary distribution lines. It is not a fully insulated power cable.

2. What conductor types are available?

The supplied product range includes AAC, AAAC, and ACSR covered conductors.

3. Which covering materials are available?

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The listed options are LDPE, HDPE, and XLPE.

4. What is the main application of this product?

The supplied product description identifies 600V overhead secondary distribution lines as its primary application.

5. Is covered line wire electrically insulated?

No. It is not an electrically insulated conductor and must be treated as bare conductor when installed.

6. How is allowable ampacity determined?

The supplied catalogue provides reference ampacity values by conductor size and type. Actual allowable ampacity should be confirmed using the applicable installation conditions and project requirements.

Contact QZ Cable for 600V AAC, AAAC, and ACSR covered overhead conductor specifications and project quotations.

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