Product Overview

PSD (Cable Distribución Aérea) is a low-voltage aerial distribution cable designed for overhead electrical power distribution systems. It consists of one, two, or three individually insulated phase conductors helically assembled around a bare messenger neutral conductor.

The insulated conductors can be manufactured with copper or aluminium, while the messenger neutral can be supplied in copper, aluminium AAC, or ACSR, depending on the project requirements.

With its outdoor-oriented HDPE insulation and supporting messenger construction, PSD cable is suitable for secondary overhead distribution networks, service connections, and outdoor lighting installations.

QZ Cable provides customized PSD cable solutions according to project specifications, conductor materials, required sizes, and applicable standards.

Cable Construction

1. Phase Conductors

- Copper conductors or aluminium conductors.
- Copper conductors can be supplied in stranded or other specified constructions.
- Aluminium conductors can be manufactured using electrical-grade aluminium alloy 1350-H19, subject to design requirements.
- One, two, or three insulated phase conductors.

2. Phase Conductor Insulation

- Black high-density polyethylene (HDPE).
- Individual thermoplastic insulation around each phase conductor.
- Designed for outdoor aerial installation.
- Other insulation materials or colours can be evaluated according to project specifications.

3. Messenger Neutral Conductor

- Bare copper or aluminium conductor.
- Aluminium AAC or ACSR messenger options, subject to the required mechanical design.
- Functions as the supporting messenger and neutral conductor in the cable assembly.

4. Cable Assembly

- Insulated phase conductors helically laid around the bare messenger neutral.
- Duplex, triplex, or other configurations according to the required circuit arrangement.

Key Characteristics

- **Flexible Configuration:** Available with one, two, or three insulated phase conductors.
- **Multiple Conductor Options:** Copper or aluminium phase conductors with different messenger neutral designs.
- **Outdoor Application:** HDPE insulation is suitable for exposed overhead installation when designed and tested for the specified environmental conditions.

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- **Messenger-Supported Design:** The bare messenger neutral provides mechanical support for the cable assembly.
- **Project-Based Customization:** Conductor sizes, materials, stranding, and cable configurations can be specified according to project requirements.

Applications

PSD aerial distribution cable is primarily used in low-voltage overhead power distribution systems, including:

- Secondary overhead distribution networks.
- Aerial service connections to residential and commercial buildings.
- Low-voltage power distribution in housing developments and residential communities.
- Permanent or temporary outdoor lighting installations.
- Utility distribution networks and related electrical infrastructure.

Applicable Standards

Depending on the destination market and project specifications, PSD cable may be designed with reference to:

- **NOM-063-SCFI:** Electrical conductors – Safety requirements.
- **NMX-J-061-ANCE:** Multiconductor cables for low-voltage aerial or underground distribution.
- **CFE E0000-09:** Multiple conductors for aerial distribution systems up to 600 V and 75°C.
- **ICEA Standards:** Available as a design reference where specified and technically applicable.

The exact standard and edition should be confirmed for each project. Compliance or certification should only be claimed when supported by the applicable test reports and approvals.

Technical Specifications

Parameter	Typical Design / Options
Product Type	PSD Aerial Distribution Cable
Rated Voltage	600 V (reference design)
Maximum Conductor Temperature	75°C (reference design)
Phase Conductor Material	Copper or Aluminium
Phase Conductor Quantity	1, 2, or 3
Phase Conductor Insulation	HDPE
Insulation Colour	Black (typical)
Messenger Neutral	Bare Copper, Aluminium AAC, or ACSR
Cable Configuration	Duplex, Triplex, or project-specific
Installation	Outdoor overhead installation
Conductor Sizes	According to project specifications

Note: The voltage rating, conductor temperature, conductor sizes, insulation thickness, messenger construction, and applicable standards must be confirmed against the final approved design and project requirements.

Duplex - AAC Conductor and ACSR Messenger Neutral

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Code	AAC conductor phase			Neutral ACSR Messenger			Approx. weight	Current-carrying capacity**
	Cal. AWG or kcmil	Number of Threads	Isolation Sp.	Cal. AWG or kcmil	Number of threads	Breaking stress	PE	Amperes
/	/	/	mm	/	/	kg	kg/km	75°C
Setter	6	1	1.14	6	6/1	540	111	59
Shepherd	6	7	1.14	6	6/1	540	116	59
Retriever	6	7	1.52	6	6/1	540	126	59
Eskimo	4	1	1.14	4	6/1	844	169	78
Terrier	4	7	1.14	4	6/1	844	176	78
Yorkshire	4	7	1.52	4	6/1	844	187	78
Chow	2	7	1.14	2	6/1	1294	270	106
Bull	1/0	19	1.52	1/0	6/1	1989	431	143

Triplex – Phase and Neutral Messenger AAC

Code	Phase conductor AAC			Neutral Messenger AAC			Approx. Weight	Current carrying capacity**
	Cal. AWG o kcmil	Number of threads	Isolation Sp.	Cal. AWG o kcmil	Number of threads	Effort to breaking off	PE	Amperes
/	/	/	mm	/	/	kg	kg/km	75°C
Haiotis	6	1	1.14	6	7	256	150	59
Patella	6	7	1.14	6	7	256	161	59
Fusus	4	1	1.14	4	7	400	223	78
Oyster	4	7	1.14	4	7	400	237	78
Clam	2	7	1.14	2	7	613	357	106
Snail	1/0	7	1.52	1/0	7	613	576	143
Murex	1/0	7	1.52	1/0	7	903	576	143
Purpura	1/0	19	1.52	1/0	7	903	570	143
Nassa	2/0	7	1.52	2/0	7	1140	710	165
Trophon	2/0	19	1.52	2/0	7	1140	701	165
Melita	3/0	19	1.52	3/0	19	1503	866	192
Portunus	4/0	19	1.52	4/0	19	1825	1072	224
Nannynose	336.4	19	2.03	336.4	19	2790	1730	*295

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Triplex – AAC Phase and ACSR Messenger Neutral

Code	Phase conductor AAC			Neutral Messenger AAC			Approx. Weight	Current carrying capacity**
	Cal. AWG o kcmil	Number of threads	Isolation Sp.	Cal. AWG o kcmil	Number of threads	Effort to breaking off	PE	Amperes
/	/	/	mm	/	/	kg	kg/km	75°C
Paludina	6	1	1.14	6	6/1	540	111	59
Voluta	6	7	1.14	6	6/1	540	178	59
Bolma	6	7	1.52	6	6/1	540	196	59
Scallop	4	1	1.14	6	6/1	540	218	78
Strombus	4	7	1.14	6	6/1	540	233	78
Whelk	4	1	1.14	4	6/1	844	251	78
Periwinkle	4	7	1.14	4	6/1	844	265	78
Calma	4	7	1.52	4	6/1	844	286	78
Cockle	2	7	1.14	4	6/1	844	351	106
Conch	2	7	1.14	2	6/1	1294	402	106
Gebia	2	7	1.52	4	6/1	844	376	106
Janthina	1/0	7	1.52	2	6/1	1294	566	143
Ranella	1/0	19	1.52	2	6/1	1294	559	143
Neritina	1/0	7	1.52	1/0	6/1	1989	648	143
Cenia	1/0	19	1.52	1/0	6/1	1989	641	143
Cavolinia	2/0	7	1.52	1	6/1	1612	697	165
Clio	2/0	19	1.52	1	6/1	1612	688	165
Runcina	2/0	7	1.52	2/0	6/1	2406	800	165
Triton	2/0	19	1.52	2/0	6/1	2406	792	165
Aega	3/0	19	1.52	1/0	6/1	1989	849	192
Mursia	3/0	19	1.52	3/0	6/1	3005	979	192
Cerapus	4/0	19	1.52	2/0	6/1	2406	1051	224
Zuzara	4/0	19	1.52	4/0	6/1	3791	1215	224
Dosinia	266.8	19	2.03	266.8	18/1	3133	1463	*255
Cowry	336.4	19	2.03	4/0	6/1	3791	1693	*295
Limpet	336.4	19	2.03	336.4	18/1	3950	1806	*295

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Quadruplex – AAC Conductor and ACSR Messenger Neutral								
Code	Phase conductor AAC			Neutral Messenger AAC			Approx. Weight	Current carrying capacity**
	Cal. AWG o kcmil	Number of threads	Isolation Sp.	Cal. AWG o kcmil	Number of threads	Effort to breaking off	PE	Amperes
/	/	/	mm	/	/	kg	kg/km	75°C
Morochuca	6	1	1.14	6	6/1	540	223	59
Chola	6	7	1.14	6	6/1	540	239	59
Morgan	4	1	1.14	4	6/1	844	333	78
Hackney	4	7	1.14	4	6/1	844	354	78
Yearling	2	7	1.14	4	6/1	844	482	106
Palomino	2	7	1.14	2	6/1	1294	533	106
Colt	1/0	19	1.52	2	6/1	1294	769	143
Costena	1/0	19	1.52	1/0	6/1	1989	851	143
Haflinger	2/0	19	1.52	1/0	6/1	1989	991	165
Grullo	2/0	19	1.52	2/0	6/1	2406	1048	165
Claiming	3/0	19	1.52	1/0	6/1	1989	1164	192
Suffolk	3/0	19	1.52	3/0	6/1	3005	1294	192
Toric	4/0	19	1.52	1/0	6/1	1989	1379	224
Stallion	4/0	7	1.52	4/0	6/1	3791	1620	224
Filly	4/0	19	1.52	2/0	6/1	2406	1437	224
Appaloosa	4/0	19	1.52	4/0	6/1	3791	1601	224
Gelding	336.4	19	2.03	4/0	6/1	3791	2319	*295
Bronco	336.4	19	2.03	336.4	18/1	3950	2432	*295

Estimated values

**Based on NEC table (NFPA 70) 310.20. -No more than 3 conductors supported in a messenger neutral and at an ambient temperature of 40°C.

NOTE: Dimensions and weights are subject to manufacturing tolerances.

Manufacturing & Customization

QZ Cable provides customized PSD aerial distribution cable solutions according to project specifications and customer requirements.

Available customization options include:

- Copper or aluminum phase conductors
- AAC or ACSR messenger neutral
- Duplex, triplex, and quadruplex configurations

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- Different AWG and kcmil conductor sizes
- Customized insulation thickness
- Project-specific technical specifications

Contact our sales team for technical datasheets, drawings, and project quotations.

Frequently Asked Questions (FAQ)

1. What is PSD aerial distribution cable used for?

PSD aerial distribution cable is used in low-voltage overhead electrical distribution systems, including secondary power distribution, service connections, and outdoor lighting installations.

2. What is the rated voltage of PSD cable?

The maximum rated voltage specified for this PSD cable is 600 V.

3. What conductor materials are available?

The phase conductors can be manufactured using copper or aluminum. The messenger neutral can be supplied in bare copper or aluminum construction, depending on the design.

4. What is the difference between duplex, triplex, and quadruplex aerial cables?

These configurations differ in the number of insulated phase conductors and their cable assembly arrangement. The appropriate configuration depends on the electrical distribution system and project requirements.

5. Is PSD aerial distribution cable suitable for outdoor installation?

Yes. Its black HDPE insulation is designed to resist sunlight exposure, making it suitable for outdoor overhead installations.

6. Can QZ Cable manufacture PSD cable according to customer specifications?

Yes. QZ Cable can customize conductor materials, sizes, stranding configurations, insulation thicknesses, and cable arrangements according to customer drawings and technical requirements.

7. How can I request a quotation for PSD aerial distribution cable?

Please send us your required conductor sizes, cable configuration, quantity, applicable specifications, and destination port. Our sales team will review your requirements and provide a technical proposal and quotation.

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