



Overview

The ASTM B399 25kV Aerial Cable AAAC (compact) with a 3-layer track-resistant XLPE is designed for use in tree wire and spacer cable configurations. It is manufactured, tested, and marked in accordance with ICEA S-121-733, which sets the standard for Tree Wire and Messenger Supported Spacer Cable. The 3-layer system includes a conductor shield (layer #1) and a 2-layer covering (layers #2 and #3).

Application

This aerial cable is intended for overhead primary and secondary distribution systems rated at 25 kV (nominal). It is designed to prevent faults due to contact or space limitations. The track-resistant 3-layer system effectively mitigates short-circuits and flashovers caused by contact with trees or wildlife, significantly reducing the risk of system outages, damage, or fires.

Tree Wire: Installed in a flat configuration with proper spacing on insulators, similar to bare or covered overhead conductors. Self-supporting conductors, such as AAAC, are typically used in these installations.

Spacer Cable: Installed with uniform spacing in a diamond configuration maintained by spacer hardware. The spacer and cable assembly are supported by a bare messenger, such as bare aluminum clad steel, ACSR, OPGW, or galvanized steel wire. Spacer cable assemblies occupy minimal space, making them suitable for narrow rights-of-way.

Construction

This cable features an AAAC conductor with a sophisticated 3-layer extruded shield and covering system:

Conductor: AAAC (All Aluminum Alloy Conductor, compact stranded).

Conductor Shield: An extruded semiconducting thermoset shield that is free stripping from the conductor and bonded to the covering.

Inner and Outer Covering Layers: The inner layer is crosslinked polyethylene (XLPE), while the outer layer is track-resistant crosslinked polyethylene (TK-XLPE). All layers are tightly bonded together. The outer layer is available in black or gray, providing resistance to sunlight and tracking.

Benefit

Enhanced Durability: The use of AAAC provides high tensile strength and resistance to environmental stresses.

Improved Safety: The 3-layer track-resistant system prevents short-circuits and flashovers, reducing the risk of outages and fires.

Versatile Installation: Suitable for both tree wire and spacer cable configurations, offering flexibility in overhead distribution systems.

Specification

-ASTM B398 – Aluminum-Alloy 6201-T81 and 6201-T83 Wire for Electrical Purposes

-ASTM B399 – Concentric-Lay-Stranded Aluminum-Alloy 6201-T81 Conductors

-ASTM D2656 – Cross-linked Polyethylene Insulation for Wire and Cable Rated 2001 to 35000V

-ICEA S-121-733 – Tree Wire and Messenger Supported Spacer Cable

Eastful Cable Lab



We have CNAS Accredited Facility to assure conformity assessment services with a focus on quality, expertise, and customer satisfaction.

CNAS has international mutual recognition among IAF, ILAC, APLAC and PAC.

Accreditation

We meet the requirements of ISO9001, ISO14001, ISO45001 and ISO50001 and our cables have certificate of CCC, RoHS, CASC, UL, cUL, TÜV Rheinland and CCS.



National Green Factory



Our facility has been awarded of National Green Factory by Ministry of Industry and Information Technology of China. We are committed to the development of high-end, intelligent and green manufacturing industry.

*The overall energy consumption level of green factories is better than the energy efficiency benchmark level.

● Technical Parameters

Conductor Size	Equivalent AAC	Conductor Stranding	Conductor Dia.	Conductor Shield Thickness	Covering Thickness Inner Layer	Covering Thickness Outer Layer	Overall Dia.	Conductor Weight	Total Weight	Rated Strength
AWG or kcmil	AWG or kcmil		inch	inch	inch	inch	inch	lb/FT	lb/FT	lb/FT
48.69	4	7	0.250	0.015	0.125	0.125	0.780	45.4	233	1760
77.47	2	7	0.316	0.015	0.125	0.125	0.846	72.24	284	2800
123.3	1/0	7	0.398	0.015	0.125	0.125	0.928	114.9	356	4270
155.4	2/0	7	0.447	0.015	0.125	0.125	0.977	144.9	404	5390
195.7	3/0	7	0.502	0.015	0.125	0.125	1.032	182.5	462	6790
246.9	4/0	7	0.563	0.015	0.125	0.125	1.093	230.2	531	8560
312.8	266.8	19	0.642	0.015	0.125	0.125	1.172	291.6	622	10500
394.5	336.4	19	0.721	0.015	0.125	0.125	1.251	367.9	727	13300
465.4	397.5	19	0.783	0.015	0.125	0.125	1.313	433.9	815	15600
559.5	477	19	0.858	0.020	0.125	0.125	1.398	521.7	940	18800
652.4	556.5	19	0.927	0.020	0.125	0.125	1.467	608.3	1052	21900
740.8	636	37	0.991	0.020	0.125	0.125	1.531	690.8	1158	24400
927.2	795	37	1.108	0.020	0.125	0.125	1.648	865	1376	30500

NOTES

1. Dimensions and weights are subject to standard manufacturing tolerances and are subject to change without notice.
2. Cables are manufactured, tested and marked to meet or exceed the requirements in ICEA S-121-733 for tree wire and messenger supported spacer cable suitable for installation and use in systems rated 25 kV.