



Overview

The ASTM B399 35kV Aerial Cable AAAC (All Aluminum Alloy Conductor) with a 3-layer Track-resistant PE is meticulously engineered for both tree wire and spacer cable configurations. Manufactured, tested, and marked in strict accordance with ICEA S-121-733 standards, it adheres to the stringent requirements set for Tree Wire and Messenger Supported Spacer Cable installations. This cable boasts a robust 3-layer system, comprising a conductor shield (layer #1) and a 2-layer covering (layers #2 and #3), ensuring unparalleled performance and reliability.

Application

Designed for overhead primary and secondary distribution systems rated at 35 kV, this aerial cable is indispensable in preventing faults arising from contact or space constraints. Its innovative 3-layer track-resistant system serves as a formidable barrier against short-circuits and flashovers caused by encounters with trees or wildlife. When deployed correctly, this cable significantly mitigates the risk of system outages, damage, or fires, safeguarding vital infrastructure and ensuring uninterrupted power supply.

Tree Wire: In tree wire power systems, this cable is seamlessly integrated in a flat configuration, mirroring the installation methods of bare or covered overhead conductors. Self-supporting conductors, notably ACSR, are prevalent in this setup, ensuring stability and reliability even in challenging environments.

Spacer Cable: For spacer cable power systems, this cable is meticulously installed with uniform spacing in a diamond configuration, meticulously upheld by spacer hardware. Supported by a bare messenger such as bare aluminum clad steel, ACSR, OPGW, or galvanized steel wire, these assemblies occupy minimal space, making them optimal for narrow corridors or rights-of-way with limited real estate.

Construction

Crafted as a single cable solution, this cable features an ACSR conductor, renowned for its exceptional strength and conductivity. Its 3-layer extruded shield and covering system comprises an extruded semiconducting thermoset conductor shield, providing robust protection against external elements. The inner layer boasts a crosslinked polyethylene (XLPE), while the outer layer is fortified with track-resistant crosslinked polyethylene (TK-XLPE), ensuring maximum durability and longevity. All layers are meticulously bonded together, providing a cohesive and reliable defense against environmental stressors.

Conductor: AAC (1350-H19, compact stranded)

Conductor Shield: Extruded semiconducting thermoplastic shield, free stripping from the conductor and bonded to the covering.

Inner and Outer Covering: 2-layer crosslinked polyethylene covering (XLPE), with the outer layer featuring track-resistant properties (TK-XLPE). Both layers are firmly bonded together, offering resistance to sunlight and tracking, available in black or gray.

Specification

- ASTM B230 – Aluminum 1350–H19 Wire for Electrical Purposes
- ASTM B231 – Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B399 – Concentric-Lay-Stranded Aluminum Alloy Conductors
- ASTM B400 – Compact Round Concentric-Lay-Stranded Conductors
- ASTM D1248 – Polyethylene Plastics Extrusion Materials for Wire and Cable
- ICEA S-121-733 – Tree Wire and Messenger Supported Spacer Cable

Eastful Cable Lab



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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.



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● 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	0.175	0.125	0.88	45.4	290	1760
77.47	2	7	0.316	0.015	0.175	0.125	0.946	72.24	345	2800
123.3	1/0	7	0.398	0.015	0.175	0.125	1.028	114.9	423	4270
155.4	2/0	7	0.447	0.015	0.175	0.125	1.077	144.9	474	5390
195.7	3/0	7	0.502	0.015	0.175	0.125	1.132	182.5	536	6790
246.9	4/0	7	0.563	0.015	0.175	0.125	1.193	230.2	610	8560
312.8	266.8	19	0.642	0.015	0.175	0.125	1.272	291.6	705	10500
394.5	336.4	19	0.721	0.015	0.175	0.125	1.351	367.9	816	13300
465.4	397.5	19	0.783	0.015	0.175	0.125	1.413	433.9	909	15600
559.5	477	19	0.858	0.020	0.175	0.125	1.498	521.7	1039	18800
652.4	556.5	19	0.927	0.020	0.175	0.125	1.567	608.3	1156	21900

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 35 kV.