

ACSR Cable

Aluminum Conductor Series 1350 + Galvanized Steel



Description

The ACSR cables are built with series 1350 pure aluminum wires at H19 hardness twisted helically from 7 and more wires in concentric layers over a wire or cabled galvanized steel core.

Standard Specifications

The ACSR aluminum + steel cables are built based on the following:

- Standards: **ASTM B230, B502 y B549.**
- Certificate: **CIDET # 03540.**

Features

- The ACSR steel core cables are built to deliver aluminum conductors with high tensile capacity allowing long cable spans with minor sag due to high conductor temperatures compared to AAC conductors.
- The overall ACSR conductor diameter is larger since the steel core is not considered in the electrical resistance calculation and only the aluminum will carry the current.
- The cable design will vary depending on the application, it is identified by the code word and the steel core could be solid or

stranded, the aluminum wires could have different diameters and counts in the same gauge.

Applications

- The ACSR cables are designed to deliver high tensile capacity to allow long spans. The conductors are ideal on distribution and transmission power systems.
- The high tensile steel cores allow ACSR cables to withstand heavy forces in normal use. The cable is ideal to be installed on high impact risk areas, falling tree branches, heavy rain, ice, snow and severe winds. Also, in areas where the height of the span is critical.
- The ACSR cables are capable to operate at higher temperatures showing less thermal stretch compared to AAC cables.
- The ACSR steel core can be affected by severe environmental conditions, the aluminum wires build alumina for protection; the steel requires the galvanized shield that is limited when exposed to salty, acid and high humidity conditions reducing the life of the conductor.



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Technical Information

Dimensions and nominal features

The conductor operating amperage is defined by the installation condition and operating temperatures identified. See Table 4 on Ampacities for Aluminum & ACSR Overhead Electrical Conductors issued by the Aluminum Association.

Code	Gauge	Wires		Diameter		Weight	Break Tension	DC Max. @ 20°C Resistance
	AWG/kcmil	Aluminio	Acero	in	mm	kg/km	kg	Ω/km
Swan	4	6	1	0,25	6,36	86	844	1,323
Sparrow	2	6	1	0,32	8,01	137	1293	0,832
Raven	1/0	6	1	0,40	10,11	218	1987	0,523
Quail	2/0	6	1	0,45	11,35	275	2404	0,415
Pigeon	3/0	6	1	0,50	12,74	347	3003	0,329
Penguin	4/0	6	1	0,56	14,31	437	3788	0,261
Waxwing	266,8	18	1	0,61	15,45	435	3130	0,215
Merlin	336,4	18	1	0,68	17,36	548	3946	0,171
Chickadee	397,5	18	1	0,74	18,87	648	4491	0,145
Pelican	477	18	1	0,81	20,67	777	5352	0,120
Osprey	556,5	18	1	0,88	22,33	907	6214	0,103
Brant	397,5	24	7	0,77	19,61	784	6622	0,194
Flicker	477	24	7	0,85	21,49	941	7802	0,120
Parakeet	556,5	24	7	0,91	23,21	1097	8981	0,139
Peacock	605	24	7	0,95	24,20	1193	9798	0,128
Cuckoo	795	24	7	1,09	27,74	1568	12655	0,097
Partridge	266,8	26	7	0,64	16,29	562	5126	0,313
Linnet	336,4	26	7	0,72	18,30	709	6396	0,249
Ibis	397,5	26	7	0,78	19,89	838	7394	0,210
Hawk	477	26	7	0,86	21,79	1005	8845	0,175
Dove	556,5	26	7	0,92	23,53	1072	10251	0,150

Note: The values given may vary according to the manufacturing tolerances



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