ACAR Cable

Aluminum Cable Series 1350 + Reinforced with Aluminum Alloy 6201

Prysmian Group

Description

The ACAR cables are build with series 1350-H19 hard pure aluminum wires twisted helically with aluminum alloy 6201-T81 wires in concentric layers and multiple combinations.

Standard Specifications

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

- Standards: **ASTM B230, B398 y B524.**
- Certificate: **CIDET # 03539.**

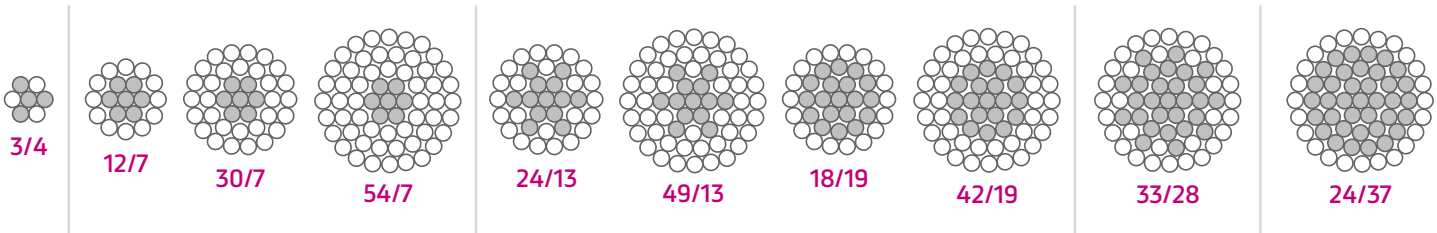
Features

- The ACAR cables are built combining aluminum 1350 wires with alloy 6201 wires in multiple different formations to vary the current carrying capacity with the tensile capability allowing long spams. The 6201 wires deliver high tensile with limited current capacity and the 1350 wires deliver lower tensile with high current capacity.
- All cable wires are aluminum providing environmental protection with the alumina shield, the cable is high resistant humidity, salts, acids and contaminants capable.
- The ACAR cables provide higher currents than equivalent heavier ACSR cables maintaining long spams with limited thermal expansion at high operating temperatures.

Applications

- The ACAR cables are designed to deliver high current capacity with equivalent tensile to ACSR to allow long spams. The conductors are ideal on distribution and transmission power system in severe environmental conditions.
- The implementation of aluminum and alloy wires deliver higher current capacity at lower weight than ACSR cables with high resistance to humidity, salts, acids and pollution.

Cable Configurations



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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 1 on Ampacities for Aluminum & ACSR Overhead Electrical Conductors issued by the Aluminum Association.

Gauge		Wires Aluminum		Diameter		Weight	Breakage Load	DC Max. @ 20°C Resistance	Ampacity*
AWG/kcmil	mm	1350	6201	in	mm	kg/km	kg	Ω/km	A
4	21,2	4	3	0,23	5,88	58	508	1,452	135
2	33,6	4	3	0,30	7,42	92	794	0,910	180
1/0	53,5	4	3	0,38	9,63	147	1 220	0,573	241
2/0	67,4	4	3	0,43	10,81	185	1 501	0,454	278
3/0	85,0	4	3	0,48	12,14	234	1 864	0,360	322
4/0	107	4	3	0,54	13,63	294	2 350	0,285	373
250	127	15	4	0,65	16,40	348	2 490	0,235	417
300	152	15	4	0,71	17,96	418	2 948	0,196	467
350	177	15	4	0,76	19,40	487	3 388	0,171	515
400	203	15	4	0,82	20,74	557	3 824	0,150	560
500	253	18	19	0,81	20,67	695	5 987	0,120	644
600	304	18	19	0,89	22,64	833	7 167	0,097	723
853,7	433	18	19	1,06	27,01	1 184	9 707	0,068	909
1000	507	54	7	1,15	29,27	1 393	8 981	0,058	1002

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

*Current capacity calculated considering sun and wind. Bare conductors outdoors, based on 25 ° C ambient temperature, conductor temperature 75 ° C, wind speed 0.6 m / s, conductor emissivity 0.5, solar radiation 1000 W/m² at sea level

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