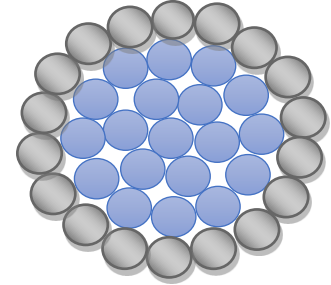


STER – ACAR™

Aluminium Conductor Alloy reinforced (ACAR) is formed by concentrically stranded wires of Aluminium 1350 and high strength Aluminium-Magnesium-Silicon (AlMgSi) alloy core. The number of wires of each depends on the cable design. The typical design comprises a stranded core of AlMgSi alloy strands but in certain cable constructions, the wires of AlMgSi alloy strands can be in layers throughout the Aluminium 1350 strands.

APPLICATION

Aluminium Conductors Alloy Reinforced (ACAR) are extensively used for overhead distribution and transmission lines.



CONSTRUCTION

Aluminum 1350-H19 wires, concentrically stranded about an aluminum-alloy 6201-T81 core. Although the alloy strands generally comprise the core of the conductor, in some constructions they are distributed in layers throughout the aluminum 1350-H19 strands.

ADVANTAGES

ACAR has better mechanical and electrical properties as compared to an equivalent ACSR, AAC or AAAC. A very good balance between mechanical & electrical properties makes ACAR the best choice where ampacity, strength and low weight are main consideration for line design. ACAR offers higher strength and ampacity than ACSR of same weight. A higher UTS and current carrying capacity can be obtained by increasing aluminium alloy and aluminium content respectively.

MANUFACTURING CAPABILITY

SR.NO	DESCRIPTION	RANGE	
01	Conductor Area	10.6mm ² to 1520 mm ²	0.0164 in ² 2.356 in ²
02	Conductor construction	4Al/3Al Alloy to 72Al/19 Al Alloy	
03	Conductivity of Aluminum	61%	
04	Conductivity of Al Alloy	52.5% to 57.5% (AL2 to AL7)	

PHYSICAL PROPERTIES

At a temperature of 20°C (68°F), the density of hard-drawn aluminium has been taken as 2.703 g/cm³ (168.74 lb/cf).

SR. NO.	CONDUCTOR CONSTRUCTION	MODULUS OF MPA	ELASTICITY* KSI	LINEAR COEFFICIENT*	
				/°C	/°F
01	7 Strands	62000	8992	23.0 X 10 ⁻⁶	12.8 X 10 ⁻⁶
02	19 Strands	60000	8702	23.0 X 10 ⁻⁶	12.8 X 10 ⁻⁶
03	37 Strands	57000	8267	23.0 X 10 ⁻⁶	12.8 X 10 ⁻⁶
04	61 Strands	55000	7977	23.0 X 10 ⁻⁶	12.8 X 10 ⁻⁶

SR. NO.	DESCRIPTION	RANGE	
01	Permissible Temp in continuous operation	85°C	185°F
02	Temp in a short circuit (duration up to 5 s)	200°C	392°F

Note: The Catalogue conductor Parameter are informative and can be customized as per Project Requirements.

STANDARDS

IEC, BS, ASTM, CAN-CSA, DIN, IS, AS and relevant national and international standards.

Non-Specular (NS) Dull Finish Conductor can be available on special requirement.

Disclaimer:

* Parameters mentioned in the document are indicative and can vary subject to different standards

* Customizations are available on select products. Please indicate your interest by reaching out to the sales team

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