# ALUMOSTEEL® WIRES AND CABLES - 40%IACS

AS40-1-3F

## Description

ALUMOSTEEL is a bimetallic conductor that combines the properties of steel and aluminum to form a material with the best of both metals.

Obtained from a continuous extrusion process, ALUMOSTEEL can be manufactured with different proportions between the two metals, according to the application and the demands of mechanical strength and electrical conductivity, it can vary among 13%, 20%, 27%, 30% and 40% IACS.

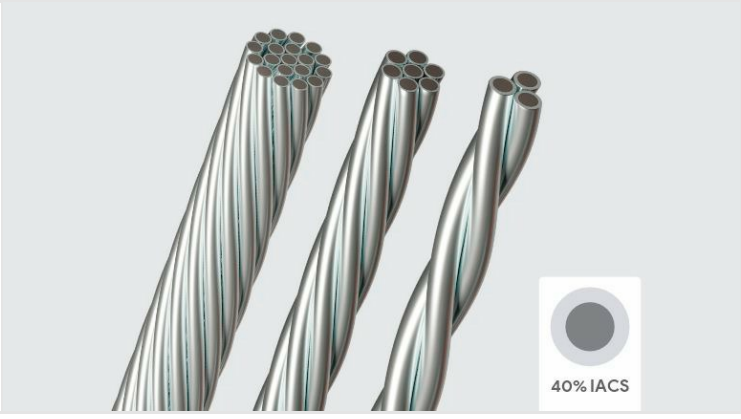
The 13% and 20% IACS versions, for example, are smartest choices to replace hot dip galvanized steel cables on applications such as support wire ropes, stays for towers or ACSR core (ACSR/AW).

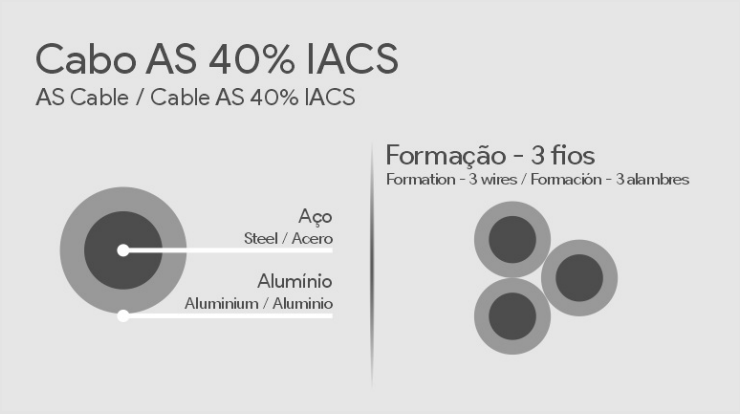
**Used as phase and neutral conductors**, ALUMOSTEEL are an excellent alternative for power distribution, both in phase and in neutral, and it can be dimensioned according to the utility power distribution lines requirements with the advantage of operating in a higher thermal regime than other CAA cables.

**Used as grounding conductor (earth wire)**, the high mechanical strength and the low weight of ALUMOSTEEL cables allows its traction with minimal sags. The aluminum coating offers an excellent protection against atmospheric corrosion, while providing excellent conductivity.

**Used as messenger and neutral cable of protected power distribution lines (stay wire rope)**, the high breaking load of ALUMOSTEEL provides the messenger cable with the strength necessary to support the weight of other conductors, while its aluminum cover ensures efficient performance as a neutral cable.

**Used as wires for OPGW cable** the ALUMOSTEEL are used to support OPGW (Overhead Power Ground Wire) cables, the different aluminum thickness of ALUMOSTEEL versions provides a greater flexibility of electrical and mechanical design.




## Datasheet

| | |
|---|---|
| **Nominal Cross Section (AWG/MCM)** | 1 |
| **Conductor Characteristics** | |
| Qty. Of Wires | 3 |
| Diameter of Wires (mm) | 4,11 |
| Diameter of Cable (mm) | 8,85 |
| Effective Cross Section (mm²) | 40,12 |
| **Physical Parameters** | |
| Aluminium Area (%) | 62 |
| Steel Area (%) | 38 |

| | |
|---|---|
| Specific Weight (g/cm³) | 4,63 |
| **Mechanical Characteristics** | |
| Nominal Weight (kg/km) | 186,00 |
| Elastic Modulus (GPa) | 119 |
| Coef. of Linear Thermal Expansion (1/°C) | 1,84 E-5 |
| Breaking Load - EHS (daN) | 2509 |
| **Electrical Characteristics** | |
| Coef. de Variação de Resistência (1/ºC) | 0,0040 |
| Inductive Reactance - 60Hz (ohms/km) | - |
| Capacitive Reactance - 60Hz (ohms/km) | - |
| Steady-State Current Capacity - 75ºC (A) | 198 |
| Current Capacity in DC - 50ms (A) | - |
| Current Capacity in DC - 100ms (A) | - |
| Current Capacity in DC - 0,5s (A) | - |
| Maximum Resistance to 20°C in DC (ohms/km) | 1,092 |
| **Package** | |
| Reel Type | - |
| Nominal Length (m) | - |
| Net Weight per Reel (kg) | - |
| Gross Weight per Reel With Packing (kg) | - |