# COPPERSTEEL® CABLES - 40% IACS

CS40-50-7F

## Description

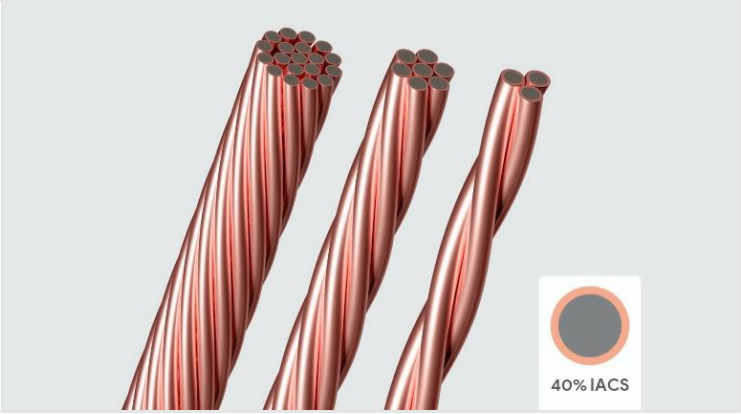
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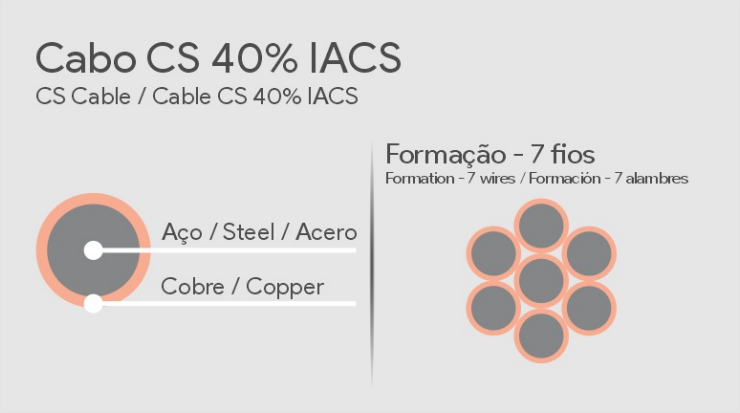
**COPPERSTEEL** is a bimetallic conductor that combines the mechanical properties of steel with the high conductivity and corrosion resistance of copper. Created from a continuous cladding process where the metals are joined together on an atomic scale to produce a bimetallic material with the best of both metals, it is the smartest option for grounding grid, counterpoise, grounding conductor and various other applications.

**SUBSTATION GROUNDING SYSTEMS**: For grounding applications, the COPPERSTEEL conductors with 40% and 53%, IACS have equivalent fusing resistance performance to bare copper cable with same cross section, against short-circuit up to 1s rate duration. In practice, this is possible because the steel core allows the COPPERSTEEL conductor to work over a wider temperature range than copper, without compromising its physical characteristics.

**POWER GENERATION GROUNDING SYSTEMS (RENEWABLE):** The best grounding solution for wind farms, photovoltaic systems and hydroelectric plants. Performance equivalent to copper and superior to hot dip galvanized steel, ensuring maximum performance in the grounding of equipments (wind turbines, transformers, photovoltaic plates, etc) and civil works (anchor bolts, powerhouses, substations, among others), in addition to reducing the potential for theft.

**STANDARDS:**
ASTM B-228: Standard Specification for Concentric-Lay-Stranded Copper-Clad Steel Conductors.
ASTM B-227: Standard Specification for Hard-Drawn Copper-Clad Steel Wire.




## Datasheet

| | |
|---|---|
| **Nominal Cross Section (mm²)** | 50 |
| **Effective Cross Section (mm²)** | 49,50 |
| **Conductor Characteristics** | |
| Qty. Of Wires | 7 |
| Diameter of Wires (mm) | 3,00 |
| Diameter of Cable (mm) | 9,00 |
| Cross Section (AWG/MCM) | 1 |
| **Physical Parameters** | |
| Copper Area (%) | 35 |
| Steel Area (%) | 65 |
| Specific Weight (g/cm³) | 8,20 |

| | |
|---|---|
| **Mechanical Characteristics** | |
| Nominal Weight (kg/km) | 409,00 |
| Elastic Modulus (GPa) | 176 |
| Coef. of Linear Thermal Expansion (1/°C) | 1,90 E-05 |
| Breaking Load - LCA (daN) | 1247 |
| **Electrical Characteristics** | |
| Coef. de Variação de Resistência (1/ºC) | 0,00378 |
| Inductive Reactance - 60Hz (ohms/km) | - |
| Capacitive Reactance - 60Hz (ohms/km) | - |
| Steady-State Current Capacity - 75ºC (A) | 210 |
| 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) | 0,871 |
| **Package** | |
| Reel Type | - |
| Nominal Length (m) | - |
| Net Weight per Reel (kg) | - |
| Gross Weight per Reel With Packing (kg) | - |