COPPERSTEEL® CABLES - 53% IACS

CS53-120-7F

Description

Click here to see more details.

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.

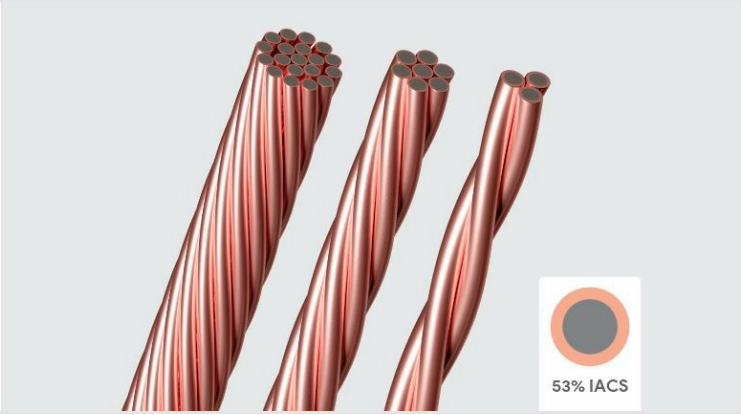
SUBSTATION GROUNDING SYSTEMS: For grounding applications, the COPPERSTEEL conductors with 40% and 53%, IACS have equivalent fusing resistance performance to bare copper cable with same cross section, against short-circuit up to 1s rate duration. In practice, this is possible because the steel core allows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

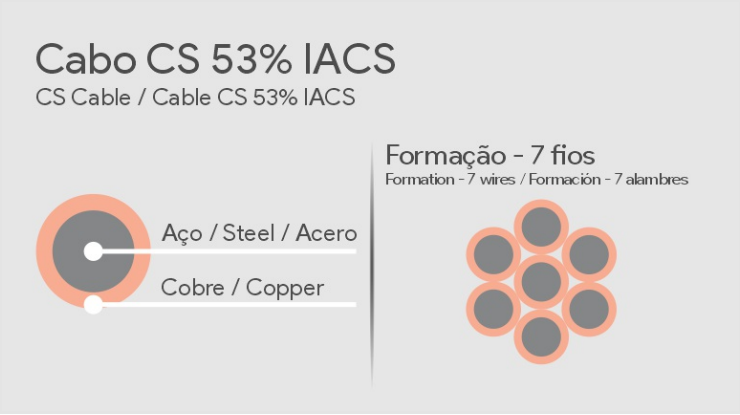
POWER GENERATION GROUNDING SYSTEMS (RENEWABLE): The best grounding solution for wind farms, photovoltaic systems and hydroelectric plants. Performance equivalent to copper and superior to hot dip galvanized steel, ensuring maximum performance in the grounding of equipments (wind turbines, transformers,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

PUBLIC LIGHTING / SIGNALING: In applications such as conductors for public lighting and signaling, COPPERSTEEL conductors, with 53% IACS, offer adequate conductivity and less theft potential compared to pure copper cables.

TELECOMMUNICATIONS: The outer copper layer of the COPPERSTEEL conductors and cables ensure equivalent performance to bare copper in TELECOM applications, due to the skin-effect at high frequencies.

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)	120
Effective Cross Section (mm²)	117,30
Conductor Characteristics	
Qty. Of Wires	7
Diameter of Wires (mm)	4,62
Diameter of Cable (mm)	13,86

Cross Section (AWG/MCM)	4/0
Physical Parameters	
Copper Area (%)	49
Steel Area (%)	51
Specific Weight (g/cm³)	8,35
Mechanical Characteristics	
Nominal Weight (kg/km)	988,00
Elastic Modulus (GPa)	166
Coef. of Linear Thermal Expansion (1/°C)	1,98 E-05
Breaking Load - LCA (daN)	2747
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)	417
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)	0,277
Package	
Reel Type	-
Nominal Length (m)	-
Net Weight per Reel (kg)	-
Gross Weight per Reel With Packing (kg)	-