COPPER

Copper is a reddish, non-ferrous transition metal with a metallic luster that, along with silver and gold, belongs to the so-called copper family, characterized by being the best conductors of electricity. Copper is a durable metal because it can be recycled almost an unlimited number of times without losing its mechanical properties. It is the third most widely used metal in the world, after steel and aluminum.

Thanks to its advantageous properties, such as high electrical and thermal conductivity, ductility, malleability, and resistance to corrosion, it has become the most widely used material for manufacturing cables and other electrical and electronic components.

ALEACION: VC - 510 = UNS C51000

Non-magnetic material with high ductility, electrical and thermal conductivity, and fatigue resistance. It has reasonable mechanical properties, a low coefficient of friction, good impact and corrosion resistance, and ease of welding. Primarily used in the electrical industry.

Chemical Composition:

%Cu	%Sn	%Pb	%Zn	%Fe
Rem.	4,2 - 5,8	0,05 máx.	0,3 máx.	0,1 máx.

Mechanical and Physical Properties:

- **Tensile Strength,** *Kg/mm²*..... 35,2 - 67,5
- **Yield Strength,** *Kg/mm²*..... 13,4 - 45,6
- **Elongation,** *%*..... 47 - 25
- **Hardness,** *HB (10 mm / 500 Kg)*..... 64 - 82
- **Thermal Conductivity,** *W / m °C (20 °C)*..... 69,2
- **Coefficient of thermal Expansion,** *10^{-6} / °C (20 - 300 °C)*..... 17,8
- **Electrical Conductivity,** *% IACS (20 °C)*..... 15
- **Operating Temperature,** *°C*..... -
- **Operating Load or Pressure,** *Kg/mm²*..... -

Technical manufacturing standards:

- Chemical Composition and Mechanical Properties: UNS C 51000
- Centrifugal Casting : ASTM B271
- Sand Mold Casting : ASTM B584
- Continuous Casting : ASTM B505 / 505M

Main Uses and Application:

Switches, Connectors, Current Collector Wheels, Fuse Clips ● Electromechanical and electrical conductivity components for general industry ● Friction Plates, Clutch Discs, Diaphragms, Expansion Plates ● Support Plates for Bridges.

✱ ***Referential Specifications for Chemical Composition, Mechanical, and Physical Properties based on the Unified Numbering System (UNS-C) of the Copper Development Association (CDA) for cast and forged copper alloys; subject to written confirmation by VULCANO METALS***

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