TRONAMETAL

TECHNICAL DATA SHEET

Doc Ref: TDS-CuCoNiBe-01

CuCoNiBe / C-17510 (CW103C)

High-strength, high-conductivity copper alloy optimized for extreme thermal and electrical applications.
Retains superior mechanical integrity and softening resistance at elevated temperatures up to 500°C.

MATERIAL STANDARDS & DESIGNATIONS

DIN	2.1285
ASTM	C17510
RWMA	CLASS III
EN/ISO	CW103C

CHEMICAL COMPOSITION

COBALT + NICKEL (Co+Ni)	BERYLLIUM (Be)	COPPER (Cu)
0.4% - 1.2%	0.2% - 0.6%	Balance (Rest)

MECHANICAL PROPERTIES

Tensile Strength (Rm)	700 - 950	N/mm²
Yield Strength (Rp 0.2)	550 - 850	N/mm²
Elongation (A5)	Min. 10 - 15	%
Hardness (HB / HRC)	200 - 280 (20 - 35)	HB (HRC)
Elastic Modulus	130 × 10³	N/mm²

PHYSICAL PROPERTIES

Electrical Conductivity	45 - 60	% IACS (26 - 35 MS/m)
Thermal Conductivity	200 - 240	W/m.K
Density	8.80	g/cm³
Max Working Temperature	500	°C

KEY APPLICATIONS

Resistance Welding	Seam welding discs, heavy-duty spot, projection, and butt welding electrodes.
Aluminum Die-Casting	Water-cooled plunger tips (piston heads) and shot sleeve components.
Moulds & Tooling	Sanitary fitting casting dies, plastic injection mold inserts and hot runner nozzles.