CuCrZr / C-18150 (CW106C)

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

STANDARD	DESIGNATION / GRADE
DIN	2.1293
ASTM	C18150
RWMA	CLASS II
EN / ISO	CW106C

CHEMICAL COMPOSITION

ELEMENT	CHROMIUM (CR)	ZIRCONIUM (ZR)	COPPER (CU)
Content (%)	0.5% – 1.2%	0.03% – 0.3%	Balance (Rest)

MECHANICAL PROPERTIES

PROPERTY	VALUE RANGE	UNIT
Tensile Strength (Rm)	350 – 440	N/mm²
Yield Strength (Rp 0.2)	300 – 350	N/mm²
Elongation (A5)	Min. 8 – 15	%
Hardness (HB 30)	100 – 160	HB
Elastic Modulus	120 × 10³	N/mm²

PHYSICAL PROPERTIES

PROPERTY	VALUE	UNIT
Electrical Conductivity	70 – 76	% IACS (49-59 MS/m)
Thermal Conductivity	320	W / m.K
Density	8.96	g / cm³
Max Working Temperature	500	°C

KEY APPLICATIONS

Resistance Welding
Spot welding electrodes, electrode holders, and seam welding discs.

Electric Motors
High-conductivity cast copper rotor rings and bars for heavy-duty motors.

Continuous Casting
Moulds for steel and aluminium casting, spark erosion electrodes.