

FormaPlast 340

Technical Datasheet

Short Name	CW106C	Chemical Composition (Reference values in %)	Cr	Zr	Cu
Code	CuCr1Zr		0.8	0.08	balance
Material-Nr.(old)	2.1293				

Classification	DIN ISO 5182	Class A 2/2
	R.W.M.A.	Class 2
	UNS	C18150

Material-Properties Precipitation hardened copper alloy with excellent hardness and high electrical and thermal conductivity.

Applications

- Electrodes and cap tips for spot welding as well as for spark erosion
- Contact tips for MIG/MAG welding
- Parts in electrical equipments under high stress conditions if high electrical conductivity is required
- Application predominantly at low mechanical load if simultaneously very high heat elimination is desired

Mechanical Properties (Reference values)	Conditions	solution annealed and aged			
	Cross section		Ø 21–50 mm	Ø 51–200 mm	other products **)
	Hardness	HB 62,5/2,5	150	120	130
	Tensile strength	N/mm ²	min. 440	min. 360	min. 350
	Yield strength	N/mm ²	min. 350	min. 260	min. 250
	Elongation L = 5 D	%	min. 10	min. 18	min. 18
	Modulus of elasticity	kN/mm ²	108	108	108
	Modulus of torsion	kN/mm ²	45	45	45
Squeeze strength	%	95–100 % of yield strength			

*) resp. coextensive of cross section

***) forged discs and rings up to Ø 400 mm, forged or rolled plates can be found in our current stock list

Physical Properties (Reference values)	Electrical conductivity 20 °C (293 K)	MS/m % IACS	43–50 (min. 75 % I.A.C.S.)
	Electrical resistance 20 °C (293 K)	$\frac{\Omega \cdot \text{mm}^2}{\text{m}}$	0.021
	Coefficient of electrical resistance 0–300 °C (273–573 K)	$\frac{1}{\text{K}}$	0.00367
	Coefficient of thermal expansion 0–320 °C (273–593 K)	$\frac{1}{\text{K}}$	17,0 · 10 ⁻⁶
	Specific heat	$\frac{\text{J}}{\text{g} \cdot \text{K}}$	0.367
	Thermal conductivity 20 °C (293 K)	$\frac{\text{W}}{\text{m} \cdot \text{K}}$	ca. 320
	Density	g/cm ³	8.9

Products Bars in round, square, rectangular and flat, discs and rings, forgings, electrodes for spot seam-, projection- and butt welding, castings on request (Available sizes can be found in our current stock list).