

# Elmedur Z

## Technical Datasheet

# DURO METALL

Ein Unternehmen der Wieland-Gruppe

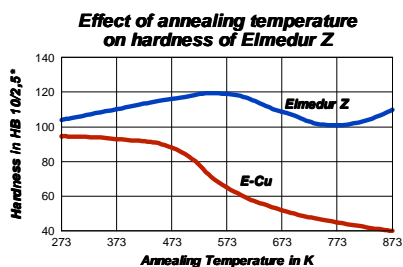
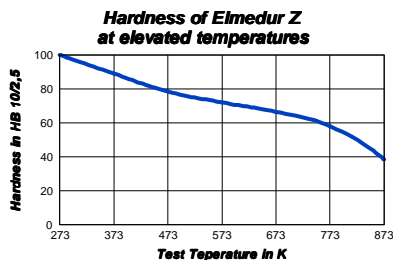
Short name CW120C Code	CuZr Material-No.(old) 2.1580	Chemical Composition (weight %)	Zr c. 0,15	others max. 0,2	Cu bal.
Classification	DIN ISO 5821 R.W.M.A.	c. Class 2 c. Class 2			
Material Characteristics	Precipitation hardened copper alloy with sufficient hardness and strength, combined with an outstanding electrical conductivity.				
Applications	<ul style="list-style-type: none"> <li>Spot welding electrodes and cap tips especially for coated sheets</li> <li>Components for electronic devices, e.g. semiconductors</li> </ul>				
Mechanical Values (Typical)	Condition		drawn and hardened	hardened	
	Diameter		<25 mm Ø	≥25 mm Ø	
	Hardness (ref. val.)	HB 10/2,5	130	120	
	Tensile strength	N/mm <sup>2</sup>	350	300	
	Yield Strength	N/mm <sup>2</sup>	310	250	
	Elongation L = 5 D	%	13	20	
	Modulus of elasticity	kN/mm <sup>2</sup>	100	-	
Physical Properties	Electr. Cond. 293 K (20 °C)	MS/m	min. 49 (min. 85 % I.A.C.S.)		
	Electr. Resist. 293 K (20 °C)	Ω.mm <sup>2</sup> /m	0,02		
	Coeff. of electr. Resist. 273-573 K (0- 300°C)	1/K	0,00367		
	Coeff. of therm. expansion 273-593 K (0- 320°C)	1/K	17,0 · 10 <sup>-6</sup>		
	Heat capacity	J/g.K	0,376		
	Therm. conduct 293 K ( 20 °C)	W/m.k	320		
	Density	g/cm <sup>3</sup>	8.9		

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### Machining (Reference value) aged

	Tungsten Carbide K 20	HSS 1.3207
Turning		
Cutting speed (m/min)	up to 250	up to 120
Rake angle	6 – 18	15 – 25
Feed and depth of cut	as to required surface finish	as to required surface finish
Chip breaker	recommended	recommended

	Tungsten Carbide K20	HSS 1. 3207
Milling		
Cutting speed m/min.	up to 300	up to 100
Rake angle	positive	positive
Feed mm/min.	200 – 300	80 – 150

	Twist drills acc. to DIN 338
Drilling	
Cutting speed (m/min)	max. 20
Chip flow	For a better chip flow, drills with an enlarged twist angle should advantageously be used. We recommend contacting the respective manufactures.

Products	Bar stock in round, square, hexagonal and flat, electrodes and cap tips for resistance welding.
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### Standards / Tolerances

DIN EN 12 163	Round bars for general purpose
DIN EN 12 167	Profiles and rectangular bars for general purpose.

\*) Brinell hardness at R.T. after 5 hours anneal and air cooling.

All statements as to the properties or utilization of the materials and products mentioned in this datasheet are only for the purpose of description. Guarantees in respect of the existence of certain properties or utilization at the material mentioned are agreed upon in writing.