

Alloy AERIS 1325

Technical Datasheet



Short name	CW120C	Chemical	Zr	others	Cu
Code	CuZr	composition	c. 0.15	max. 0.2	balance
Material №	2.1580	(Weight %)			

Classification	DIN ISO 5782 R.W.M.A.	Class 2 Class 2
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Material characteristics	Precipitation hardened copper alloy with sufficient hardness and strength, combined with an outstanding electrical conductivity.
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Application	- Spot welding electrodes and cap tips especially for coated sheets - Components for electronic devices, e.g. semiconductors
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Mechanical Values (Typical)	Condition		Solution annealed, cold drawn and precipitation hardened	Solution annealed and precipitation hardened
	Diameter		<25 mm Ø	≥25 mm Ø
	Hardness (ref. val.)	HB 10/2,5	125	105
	Tensile strength	N/mm ²	350	300
	Yield Strength	N/mm ²	310	250
	Elongation L = 5 D	%	13	20
	Modulus of elasticity	kN/mm ²	100	-

Physical properties (Typical)	Electrical conductivity 293 K (20 °C)	MS/m	min. 50 (min. 90 % I.A.C.S.)
	Electrical resistance 293 K (20 °C)	Ω·mm ² / m	0.02
	Coefficient of electrical resistance 273-573 K (0-300°C)	1/K	0.00367
	Coefficient of thermal expansion 273-593 K (0-320°C)	1/K	17.0 · 10 ⁻⁶
	Heat capacity	J/g·K	0.376
	Thermal conductivity 293 K (20 °C)	W/m·k	c. 320
	Density	g/cm ³	8.9

Available semi-finished products and finished parts	Bar stock in round, square, hexagonal and flat, electrodes and cap tips for resistance welding, forged wheels, parts made-to-order
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Machining (Reference value)
Condition: precipitation hardened

Turning	Tungsten Carbide K 20	HSS THYRAPID 3207
Cutting speed m/min.	up to 250	up to 80
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

Milling	Tungsten Carbide K 20	HSS THYRAPID 3207
Cutting speed m/min.	up to 300	up to 100
Rake angle	positive	positive
Feed mm/min.	200 ÷ 300	80 ÷ 150

Drilling	Twist drills acc. to DIN 338
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.

Standards / Tolerances	
EN 12 163	Round bars for general purpose
EN 12 167	Profiles and rectangular bars for general purpose.

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 only valid if agreed upon in writing.