C15100 (CuZr0.1)

18 08 US

Comparable standards: UNS C15100 • EN - • JIS C1510
Aurubis designations: C151 • PNA296

Description

CuZr0.1 is a copper alloy precipitation strengthened by zirconium. It has a conductivity of min. 90%IACS. Compared to high purity copper alloys, the strength is increased during the conductivity remains almost unchanged. Besides that CuZr0.1 shows a better thermal resistance, better technological properties and better relaxation behaviour, compared to pure copper.

Composition

Cu [%]	Zr [%]
rem.	0.05 – 0.15

Physical properties

Melting point [°F] [°C]	Density [lb/in³] [g/cm³]	Specific heat cap. at 20°C [Btu/lb°F] [kJ/kgK]	Electrical cond. [%IACS] [MS/m]	Thermal cond. at 20°C [Btu/ft h °F] [W/mK]	Mod. of elasticity x1000 ksi [GPa]	Coef. of therm exp. at 20°C [10^{-6}/°F] [10^{-6}/K]
2008 1098	0.323 8.94	0.092 0.386	95 55.0	208 360	17.5 121	9.8 17.6

The specified conductivity applies to the soft condition only

Mechanical properties

	Tensile strength Rm [ksi] [MPa]	Yield strength Rp0.2 min [ksi] [MPa]	Elon-gation 2" min [%]	Hard-ness HV [-]	min bend ratio 90°		min. bend ratio 180°	
					GW	BW	GW	BW
Soft	37-42 255-290	9 60	35					
H01	40-45 275-310	26 180	11					
H02	43-51 295-350	35 240	3					
H03	47-56 325-385	45 310	1					
H04	53-62 365-425	51 350	1					
H06	59-65 405-450	57 395	1					
H08	64-71 440-490	62 425	1					

Other tempers are available upon request.
GW bend axis transverse to rolling direction. BW bend axis parallel to rolling direction

Fabrication properties

Cold formability	excellent
Hot formability	excellent
Soldering	excellent
Brazing	good
Oxyacetylene welding	not recommended
Gas shielded arc welding	not recommended

Typical uses

Connectors, Leadframes, Switches, Circuit breakers, high temperature applications