C14415 (CuSn0.15)

18 08 US

Comparable standards: UNS C14415 • EN CW117C • JIS -
Aurubis designations: C14415 • PNA216 • SM0702

Description

CuSn0.15 is a solid solution strengthened copper alloy by adding tin resulting in high electrical and thermal conductivity. Due to the relatively high strength it is primarily used for the manufacture of lead frames and plug-in connector pins.
CuSn0.15 has good corrosion-resistance and is resistant against stress corrosion cracking.

Composition

Cu* [%]	Sn [%]
99.96 min	0.10 – 0.15

*) includes Cu+Ag+Sn

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]
1978 1081	0.323 8.93	0.092 0.385	84 49	202 350	18.9 130	10.0 18.0

The specified conductivity applies to the soft condition only

Mechanical properties

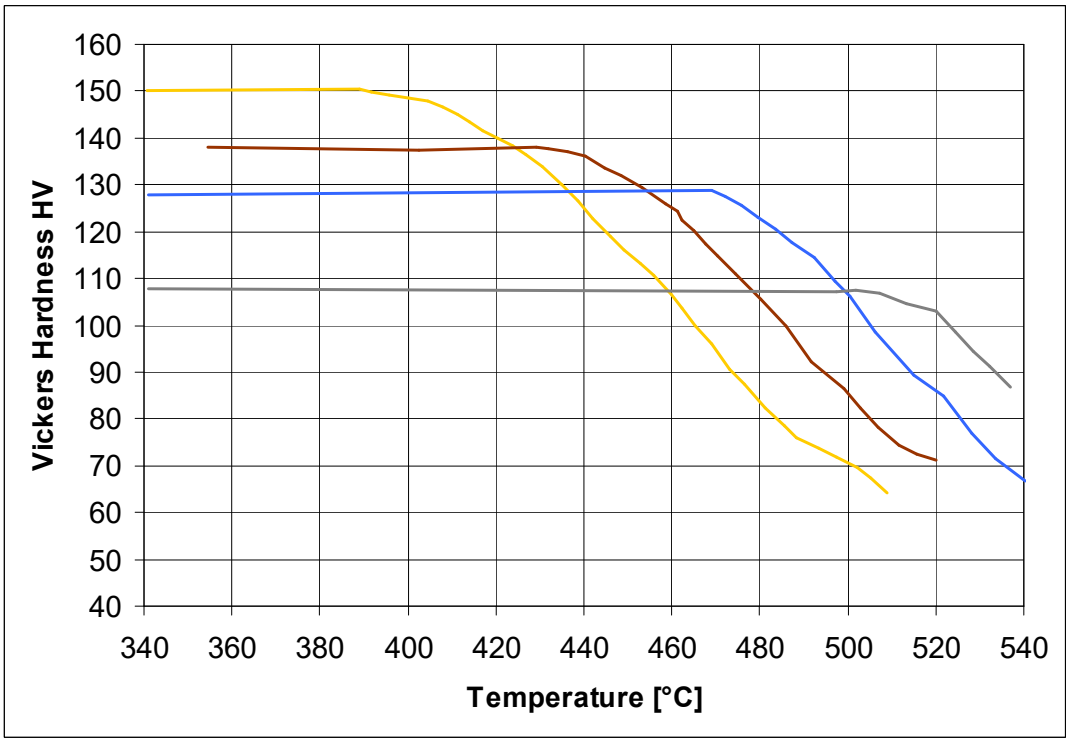
	Tensile strength Rm [ksi] [MPa]	Yield strength Rp0.2 min [ksi] [MPa]	Elongation 2” min [%]	Hard-ness HV [-]	min bend ratio 90°		min. bend ratio 180°	
					GW	BW	GW	BW
O50	36-46 250-320	> 29 > 200	9	60-90	0.0	0.0		
H02	44-54 300-370	> 36 > 250	4	85-110	0.0	0.0		
H04	52-62 360-430	> 44 > 300	3	105-130	0.0	0.0		
H06	61-71 420-490	> 51 > 350	2	120-140	1.0	1.0		

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
Soldering	excellent
Laser welding	good
Gas shielded arc welding	excellent
Resistance welding	fair

Heat Resistance and Softening Characteristics



Annealing time 2 min.

Temperatures at 1 min annealing time will be 10 degrees **higher**.
Temperatures at 4 min annealing time will be 10 degrees **lower**.

Typical uses

Automotive, Electrical engineering, Connectors pins, Lead frames