

C23000 (CuZn15) 18 08 US

Comparable standards: UNS C23000 • EN CW502L • JIS C2300
 Aurubis designations: C230 • PNA223 • SM1085

Description Red Brass with a nominal composition of 85 % copper and 15 % zinc is the second most commonly used brass or copper-zinc alloy, especially for applications requiring excellent resistance to stress-corrosion cracking and dezincification combined with good strength and ductility. The alloy is widely used for deep-drawn articles produced on high speed "eyelet type" presses employing up to 12 sequential cupping and drawing operations without intermediate anneals. Typical CuZn15 items produced on eyelet presses include pen and pencil barrels, lipstick containers, electrical sockets and screw shells as well as various types of eyelets. It is the preferred alloy for fire extinguisher tanks because of its combined ductility, strength and corrosion resistance.

Composition

Cu	Fe	Pb	Zn
[%]	[%]	[%]	[%]
84.0 – 86.0	0.05 max	0.05 max	rem.

*) Cu + sum of named elements min 99.8 %

Physical properties

Melting point	Density	Specific heat cap. at 20°C	Electrical cond.	Thermal cond. at 20°C	Mod. of elasticity	Coef. of therm exp. at 20°C
[°F] [°C]	[lb/in³] [g/cm³]	[Btu/lb°F] [kJ/kgK]	[%IACS] [MS/m]	[Btu/ft h °F] [W/mK]	x1000 ksi [GPa]	[10 ⁻⁶ /°F] [10 ⁻⁶ /K]
1880 1027	0.316 8.75	0.09 0.38	37 22	92 159	17 117	10.4 18.7

The specified conductivity applies to the soft condition only

Mechanical properties

Temper	Tensile strength Rm [ksi] [MPa]	Yield strength Rp0.2 nominal [ksi] [MPa]	Elongation 2'' nominal [%]	Hard-ness nominal HR30T HV	min bend ratio 90°		min. bend ratio 180°	
					GW	BW	GW	BW
Soft	39-47 269-324	13 90	45		0	0	0	0
H02	51-61 352-421	49 338	18	105	0	0	0.5	1.5
H04	63-72 435-497	62 428	7	135	0	1.5	2.0	4.0
H06	72-80 497-552	69 476	4	150	1.5		2.5	
H08	78-86 538-593	73 504	3	160	2.5		4.0	
H10	82-90 566-621	76 524	1	170				

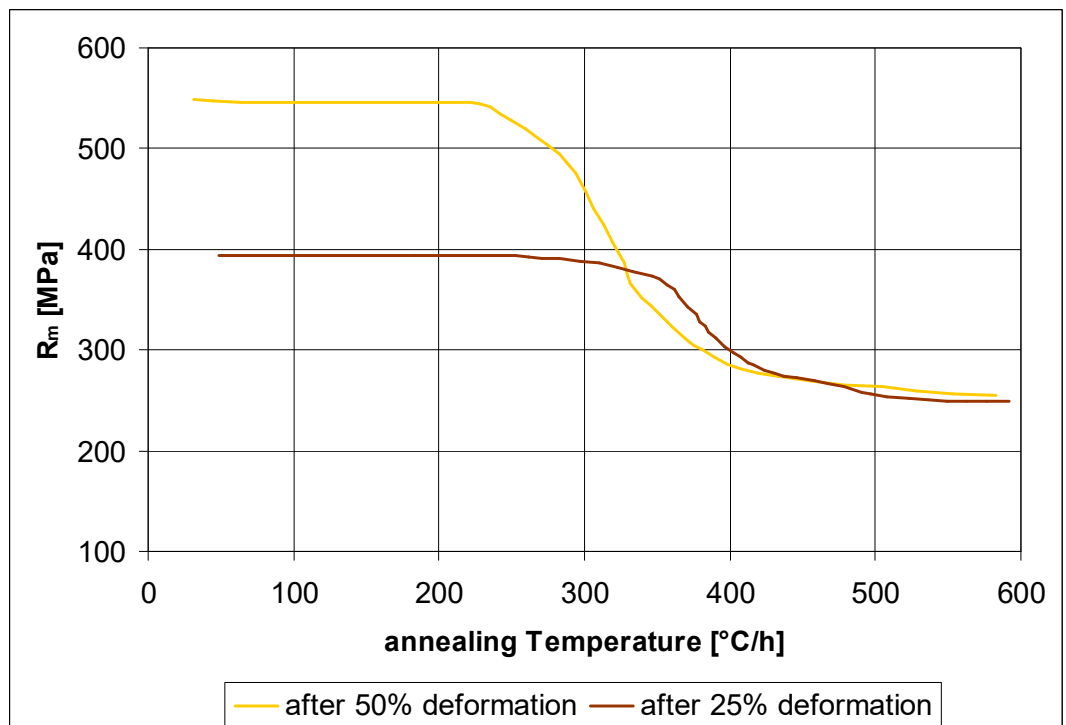
Other tempers are available upon request.
 GW bend axis transverse to rolling direction. BW bend axis parallel to rolling direction

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Fabrication properties

Soldering	excellent
Gas shielded arc welding	good
Spot Welding	fair
Butt Welding	good
Cold formability	excellent

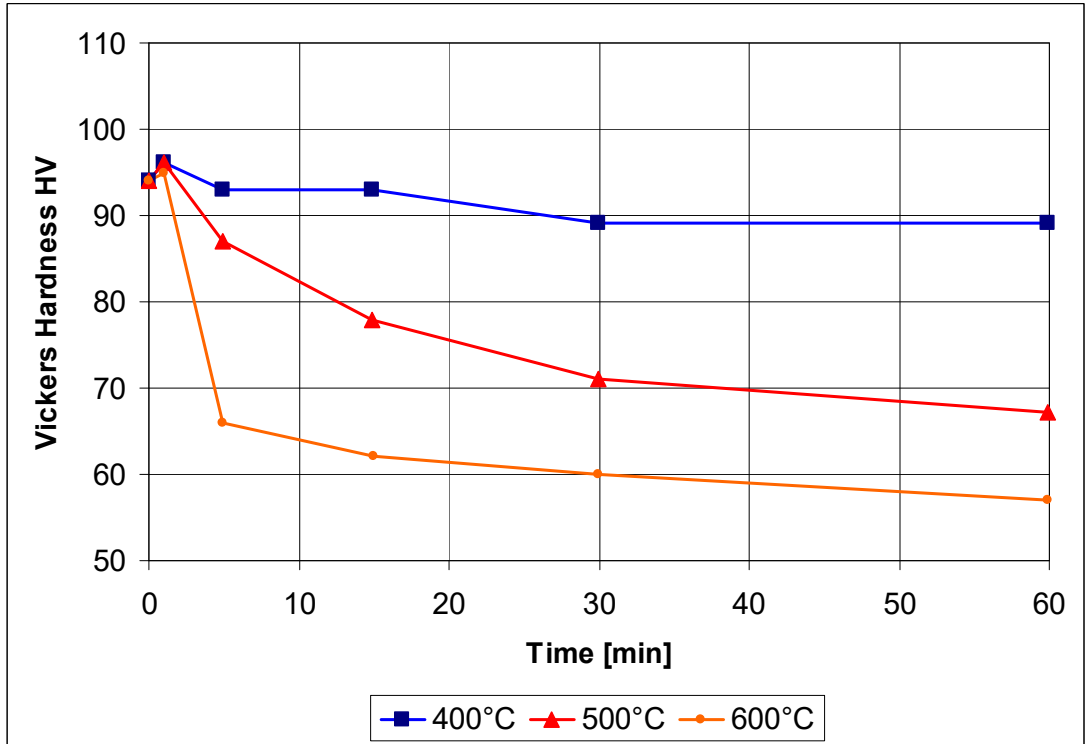
Heat Resistance and Softening Characteristics



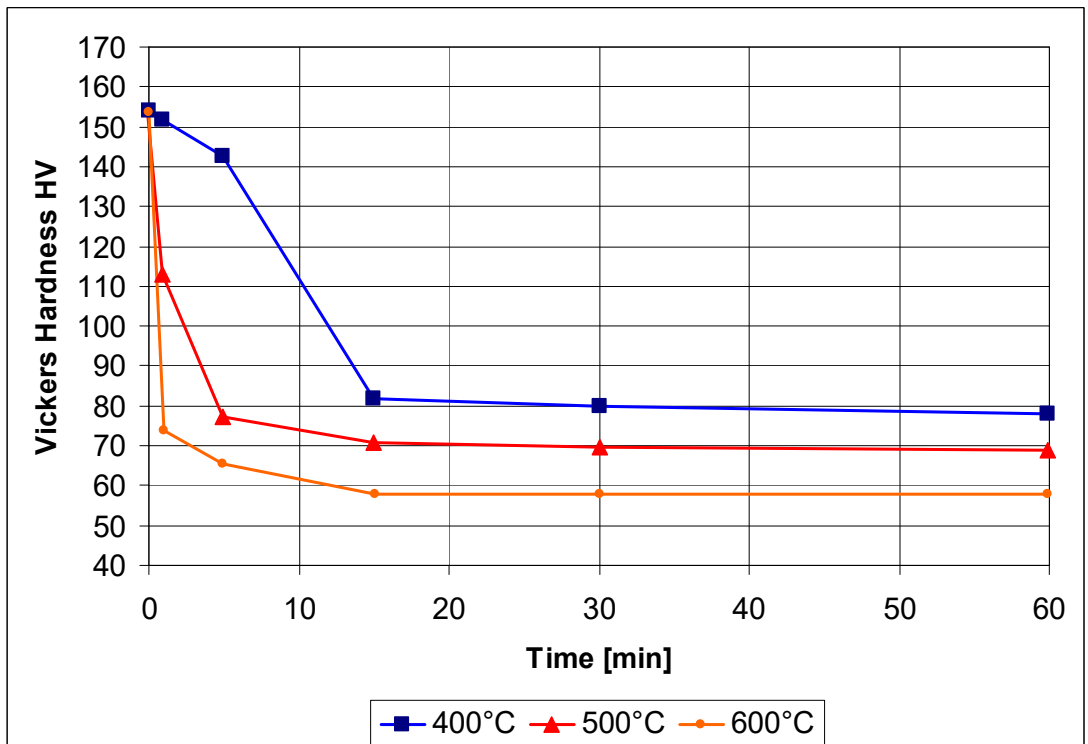
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Softening stability

Vickers hardness after heat treatment (typical values)



(Temper H06)



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Typical uses Architectural metal-work, weather-strip, ornamental trim, electrical sockets and screw shells, eyelets and fasteners, pen and pencil caps and barrels, fire extinguisher tanks, costume jewellery, badges, tags, dials and etched articles, cosmetic containers and rouge boxes, name plates.

Applicable specifications ASTM B36, B694, B88