

C64760 (CuNi1.8Si0.4Zn1.1Sn0.1Mg) 18 08 US

Comparable standards: UNS C64760
 Aurubis designations: CAC60

Description CAC60 is an alloy developed by Kobe Steel to meet the requirements for the next generation automotive terminals. Downsizing and for some applications increased temperature demands an excellent combination of formability, stress relaxation resistance, conductivity and strength. CAC60 is designed for small terminals with complicated forming. The good formability makes it possible to use tight 180 degree bends without risk for cracking. The excellent stress relaxation resistance retains high stable normal force also during class 5 applications.

Composition

Cu	Ni	Si	Sn	Zn	Mg	Pb
[%]	[%]	[%]	[%]	[%]	[%]	[%]
93.5 min	0.40-2.5	0.05-0.6	0.30 max	0.20-2.5	0.05 max	0.02 max

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]
1989 1087	0.32 8.9	0.09 0.38	≥ 40 ≥ 23	90 156	19 130	9.9 17.3

Mechanical properties

Temper	Tensile strength Rm	Yield strength Rp0.2	Elongation 2"	Hard-ness HV	min bend ratio 90°		min. bend ratio 180°	
					GW	BW	GW	BW
	[ksi] [MPa]	[ksi] [MPa]	[%]	[-]				
TM01 (H04)	87-102 600-704	75 min 517 min	8 min	190-220	0.6	0.6	0.6	0.6
TM02 (H06)	93-108 641-745	85 min 586 min	5 min	200-230	1.0	1.0	1.0	1.0

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

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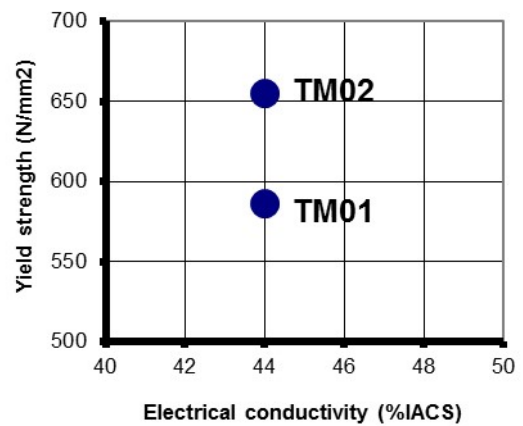
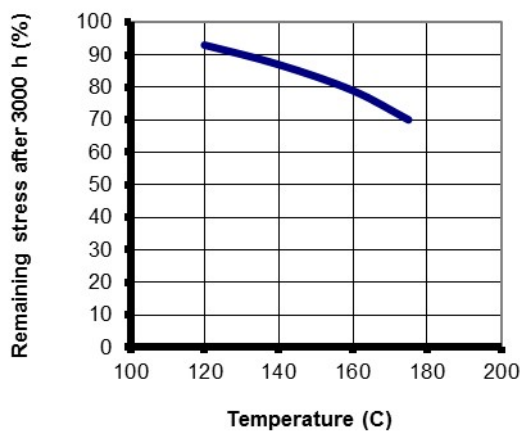
Fabrication properties

Electrical and thermal conductivity	very good
Stress relaxation resistance	excellent
Spring properties	excellent
Formability	good

The alloy contains Ni & Sn. Ni & Sn plated scrap can therefore be recycled.

Stress relaxation resistance

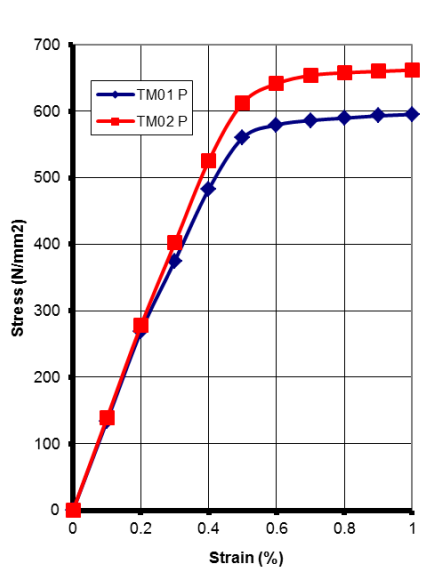
Temp for min 70 % remaining stress after 3000 h (°C): 175 °C
 Typical properties for each temper



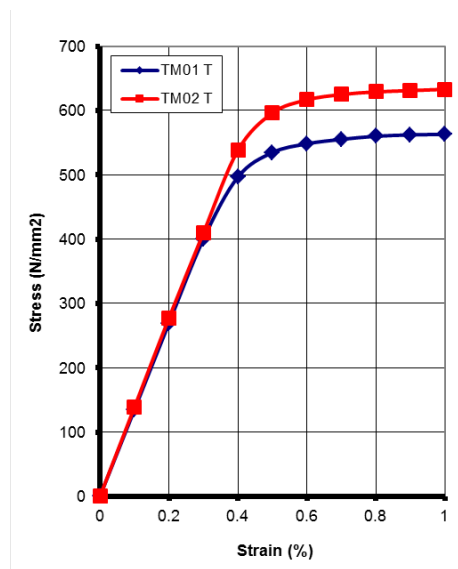
Stress Strain curves

Typical properties for material at 0.010" (0.25 mm)

Parallel



Transverse



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