

CAC5 [C19040] (CuSn1.2Ni0.8P0.07)

Composition

Cu (%)	Ni (%)	Sn (%)	P (%)
min 97.5	0.7-0.9	1.0-2.0	0.02-0.09

Physical Properties

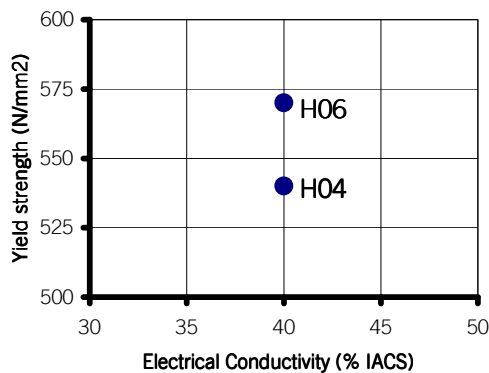
Melting point (liquidus)	Density	Specific heat cap. at 68 F (20 °C)	Electrical cond. Nom in black	Thermal cond. at 68 F (20 °C)	Mod. of elasticity	Coef. of therm.exp at 68 F (20 °C)
°F °C	lb/in ³ g/cm ³	Btu/lb°F kJ/(kg°K)	% IACS	Btu/ft h °F W/(m°K)	X1000 ksi GPa	10 ⁻⁶ /°F 10 ⁻⁶ /°C
1976 1080	0.32 8.9	0.09 0.38	40 35	96 166	19 130	9.7 17.5

Mechanical Properties

At max 0.040*
(1 mm)

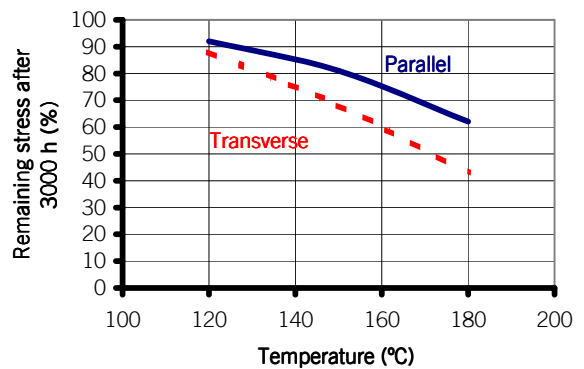
Temper	R _{p0.2} Yield strength ksi N/mm ²	R _m Tensile strength ksi N/mm ²	A ₅₀ Elongation 2" %	Hardness for reference HV	Min bend ratio 90°		Min bend ratio 180°	
					GW	BW	GW	BW
H04	70 min 480 min	72-86 500-590	7 min	155-180	0.0	0.0	0.0	0.0
H06	75 min 520 min	78-91 540-630	6 min	160-195	0.2	0.2	0.5	0.5

Typical properties at 0.010* (0.25 mm)



Stress relaxation resistance

Temp for min 70 % remaining stress after 3000 h (°C)
at least 150 °C



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Alloy attributes

CAC5 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. CAC5 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. CAC5 is produce by Luvata under license from Kobe Steel.

Good formability

High electrical and thermal conductivity

Excellent stress relaxation resistance

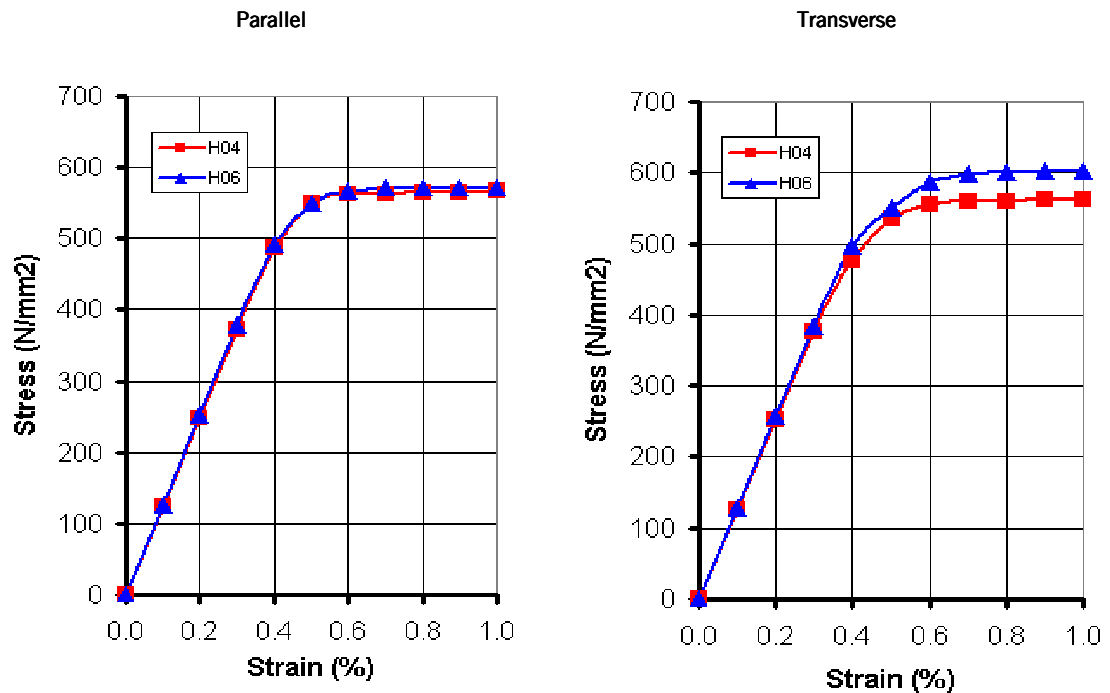
High strength

Excellent spring properties

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

Stress strain curves

Typical properties for material at 0.010" (0.25 mm)



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