

# C7026 (CuNi2Si0.4)

## Composition

Cu* (%)	Ni** (%)	Si (%)	P (%)
rem	1.0-3.0	0.2-0.7	0.01 max

\*) Cu + sum of named elements, 99.5 % min

\*\*) Including Co

## Physical Properties

Temper	Melting point (liquidus)	Density lb/in <sup>3</sup> g/cm <sup>3</sup>	Specific heat cap. at 68 F (20 °C) Btu/lb°F kJ/(kg°K)	Electrical cond. Nom in black % IACS	Thermal cond. at 68 F (20 °C) Btu/ft h °F W/(m°K)	Mod. of elasticity X1000 ksi GPa	Coef. of therm.exp at 68 F (20 °C) 10 <sup>-6</sup> /°F 10 <sup>-6</sup> /°C
	°F °C						
TM00-TM03	1989	0.320	0.09	45	90	19	10.0
	1087	8.9	0.38	40	156	130	18.0
TM0S	1989	0.320	0.09	53	112	19	10.0
	1087	8.9	0.38	50	195	130	18.0
Below 0.0059" (0.15 mm)	TM02-TM03	1989	0.320	40	90	19	10.0
		1087	8.9	38	156	130	18.0

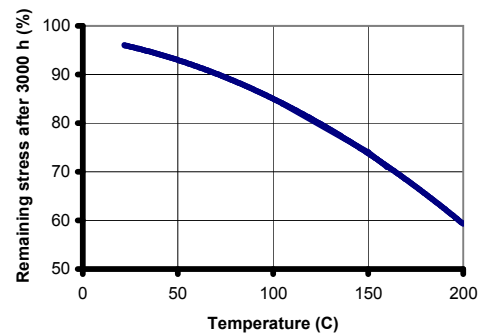
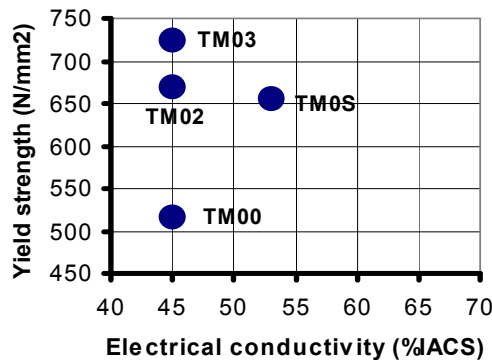
## Mechanical Properties

Temper	R <sub>p0.2</sub> Yield strength ksi N/mm <sup>2</sup>	R <sub>m</sub> Tensile strength ksi N/mm <sup>2</sup>	A <sub>50</sub> Elongation 2" %	Hardness for reference HV	Min bend ratio 90°		Min bend ratio 180°	
					GW	BW	GW	BW
At max 0.040" (1 mm)	65 min 448 min	85-95 586-655	10 min	170-200	0.5	0.5	0.5	1.0
	90 min 620 min	98-108 676-745	5 min	200-230	0.5	1.0	1.0	1.5
	100 min 690 min	105-115 724-793	1 min	220-250	1.5	2.0	1.5	2.0
Below 0.0059" (0.15 mm)	85 min 586 min	90-105 620-724	6 min	200-230	0.5	0.5	1.0	1.0
	85 min 586 min	95-105 655-724	4 min	190-220	0.5	1.0	1.0	1.5
	95 min 655 min	98-108 676-745	1 min	210-240	1.5	2.0	1.5	2.0

Typical properties at 0.010" (0.25 mm)

## Stress relaxation resistance

Temp for min 70 % remaining stress after 3000 h (°C)  
TM00, TM02 & TM0S max 160 °C. TM03 max 150 °C



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### Alloy attributes

C7026 is a CuNiSi alloy developed by Luvata. The alloy combines excellent stress relaxation resistance with high strength and high conductivity. The relatively low alloy additions in combination with the unique Luvata process knowledge ensure consistent combination of mechanical properties, conductivity and good formability. The different tempers are unique and suitable for specific applications. TM00, TM02 and TM0S for signal and power applications demanding excellent formability, high strength and good stress relaxation resistance. TM0S with enhanced conductivity. TM03 is developed for high strength signal applications.

#### Good formability

High electrical and thermal conductivity

Excellent stress relaxation resistance

High strength

Excellent spring properties

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

### Stress strain curves

Typical properties for material at 0.010" (0.25 mm)

