

Born of necessity during war years, C762 was developed to conserve nickel for national defense. Principally used for electrical relay springs and contact spring this alloy offers a unique combination of stiffness and strength required for such applications. Its work-hardening rate is high compared to other copper alloys which is especially valuable when the functional strength of a part must be raised during forming. C762 also offer an attractive nickel silver color that can be used in decorative applications.

Chemical Composition

Copper¹	57.0-61.0%
Nickel²	11.0-13.5%
Zinc	Remainder
Iron	0.25% Max
Lead	0.09% Max
Manganese	0.50% Max

¹ Cu includes Ag; Copper plus named elements = 99.5%

² Ni Values Include Co

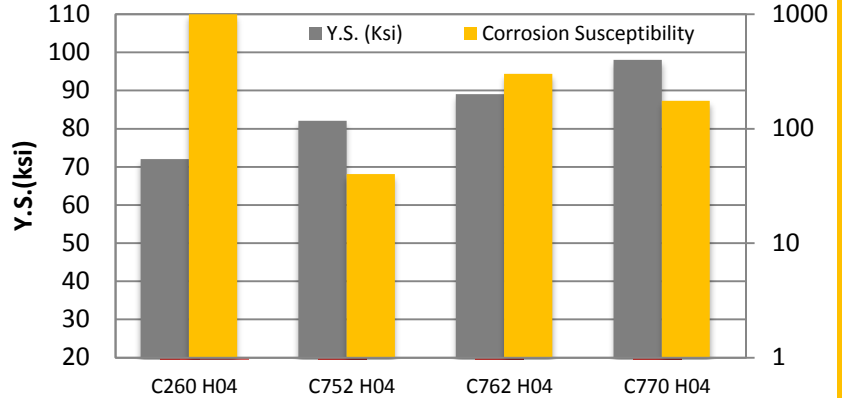


Figure 1: Comparison of Yield Strength and relative susceptibility to stress corrosion (Mattsson's solution and moist ammonia, 1000 = most susceptible).

Physical Properties

	English Units	Metric Units
Density	0.310 lb/in ³ @ 68°F	8.58 g/cm ³
Thermal Conductivity	24 BTU-ft/ft ² -hr-°F	41.5 W/m ⁰ K
Electrical Resistivity	115 ohm circ mils/ft	19 microhm-cm
Electrical Conductivity (annealed)	9% IACS*	0.05 megamho/cm
Modulus of Elasticity	18,000,000 psi	124 kN/mm ²
Thermal Capacity(Specific Heat)	0.090 Btu/lb/F ⁰ @ 68°F	377.1 J/kg · °C @ 20°C
Coeff. Of Thermal Expansion 68-572°F (20-300°C)	9.0 PPM/°F	16.2 PPM/°C

*International Annealed Copper Standard

Mechanical Properties

Temper ¹	Tensile Strength		Yield Strength ²		% Elongation ²	Typical 90° Bend Formability GW/BW ³	
	ksi	N/mm ²	ksi	N/mm ²			
Annealed	57-75	395-515	36	250	40	-	-
1/4 Hard	65-81	450-560	52	360	35	1.0	1.0
1/2 Hard	75-91	515-625	70	485	18	1.3	1.3
3/4 Hard	83-98	570-675	82	565	10	1.5	1.5
Hard	90-105	620-725	89	615	4	2.0	2.0
Extra Hard	101-114	695-785	98	675	2	2.5	2.5
Spring	109-122	750-840	105	725	1 Max	3.0	3.0
Extra Spring	114 min	785 min	102 min	705 min	1 Max		

¹ Mechanical properties subject to change. All tempers listed are made to a Tensile Strength specification unless otherwise noted.

² Nominal Values ³ DATA FOR REFERENCE ONLY. R/T = Bend Radius/Material Thickness <0.016" (0.4mm) thick, 11/16 (17.5mm) wide.

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