ALLOY DATA

C19025
ASTM B422

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Olin Brass Alloy C19025 has been introduced to meet the needs of the automotive, electronic and electrical markets. This alloy has been licensed by Olin Brass from Dowa Metals. It was developed as Alloy NB109 to meet the increasing requirements of current carrying capacity, stiffness, formability and service temperature survivability demanded by automotive and electronic terminal designers. Should higher electrical conductivity or strengths be required, consider C18080.

Chemical Composition

Copper[1]	**Remainder**
Nickel	**0.80-1.2%**
Tin	**0.70-1.1%**
Phosphorous	**0.03-0.07%**
Zinc	0.20% Max
Iron	0.05% Max

1. Cu plus Named Elements = 99.7%

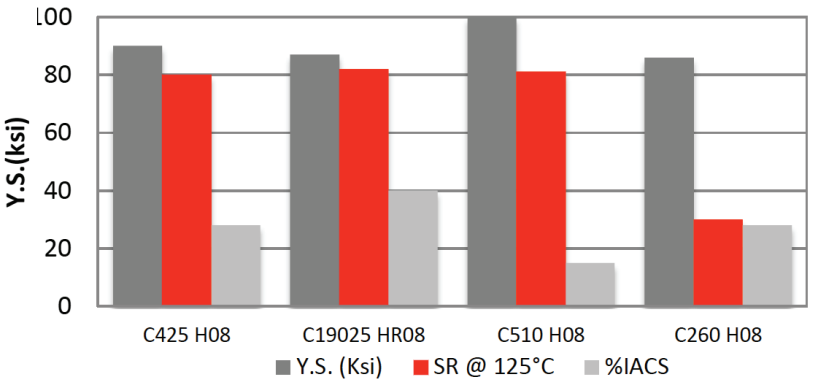

Figure 1: Comparison of Yield Strength , % Stress Remaining @ 3000hrs and Electrical Conductivity performance of various automotive terminal materials.

Physical Properties

	English Units	Metric Units
Density	0.322 lb/in^3 @ 68ºF	8.91 g/cm^3
Thermal Conductivity	100 BTU-ft/ft^2-hr-ºF	173 W/mºK
Electrical Resistivity	25.93 ohm circ mils/ft	4.31 microhm-cm
Electrical Conductivity (annealed)	40% IACS*	0.232 megamho/cm
Modulus of Elasticity	18,800,000 psi	129 kN/mm^2
Coeff. Of Thermal Expansion		
68-572ºF (20-300ºC)	9.7 PPM/ºF	17.5 PPM/ºC

*International Annealed Copper Standard

Mechanical Properties

Temper[1]	Tensile Strength		Yield Strength[2]		% Elongation[2]	Typical 90º Bend Formability GW/BW[3]	
	ksi	N/mm^2	ksi	N/mm^2			
1/4 Hard	47-69	325-475	53	365	25	-	-
1/2 Hard	63-76	435-525	66	455	15	0.5	0.5
Hard	72-83	495-570	76	525	10	0.8	1.0
Extra Hard	78-89	540-615	80	550	8	1.3	1.8
Spring Hard	84-95	580-655	87	600	6	2.0	2.8
Extra Spring	91-106	625-730	97	670	4		

[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 <0.012" (0.4mm) thick, 11/16 (17.5mm) wide.