

The "work-horse" of all copper alloys, Cartridge Brass as it is often termed can be readily formed into thousands of different parts and has the strength to perform many useful functions. The unique properties of C260 have allowed this alloy to find application in everything from bullet cases and automotive terminals to door trim and even jewelry. With a warm yellow color and ability to accommodate severe forming/drawing this alloy is one of the most versatile commercial metals. For more information contact Olin Brass Market Development Engineering at 618-258-5255, OlinBrass.com or email us at info@olinbrass.com.

### Chemical Composition

<b>Copper<sup>1</sup></b>	<b>68.5-71.5</b>
<b>Zinc</b>	<b>Remainder</b>
<b>Lead</b>	<b>0.07% Max</b>
<b>Iron</b>	<b>0.05% Max</b>

<sup>1</sup> Copper plus named elements, 99.7%

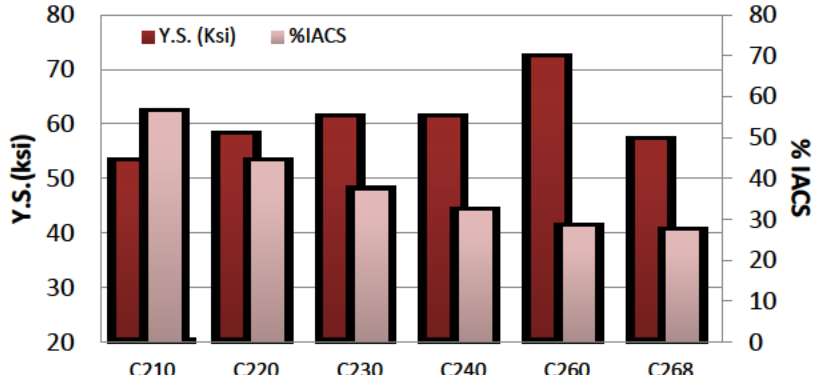


Figure 1: Comparison of Yield Strength and Electrical Conductivity performance of select Hard temper brass materials.

### Physical Properties

	English Units	Metric Units
Density	0.308 lb/in <sup>3</sup> @ 68°F	8.53 g/cm <sup>3</sup>
Thermal Conductivity	70 BTU-ft/ft <sup>2</sup> -hr-°F	121 W/mK
Electrical Resistivity	37.0 ohm circ mils/ft	6.16 microhm-cm
Electrical Conductivity (annealed)	28 % IACS*	0.162 megamho/cm
Modulus of Elasticity	16,000,000 psi	112 kN/mm <sup>2</sup>
Coeff. Of Thermal Expansion 68-572°F (20-300°C)	11.1 PPM/°F	19.08 PPM/°C

\*International Annealed Copper Standard

### Mechanical Properties

Temper <sup>1</sup>	Tensile Strength		Yield Strength		% Elongation <sup>2</sup>	Typical 90° Bend Formability GW/BW <sup>3</sup>	
	ksi	N/mm <sup>2</sup>	ksi	N/mm <sup>2</sup>			
Annealed (Soft) <sup>4</sup>	45-61	310-420	21	145	53	-	-
1/4 Hard	49-59	340-405	33	230	46	-	0.3
1/2 Hard	57-67	395-460	51	350	30	0.5	0.5
3/4 Hard	64-74	440-510	62	425	16	1.0	1.3
Hard	71-81	490-560	72	495	10	1.3	1.8
Extra Hard	83-92	570-635	83	570	3	1.8	3.0
Spring	91-100	625-690	86	595	1 min	3.0	5.0
Extra Spring	95-104	655-755	89	615	1 min		

<sup>1</sup> Mechanical properties subject to change. All rolled- tempers are accepted or rejected based on Tensile Strength.

<sup>2</sup> Nominal Values in 2" (51mm)

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

<sup>4</sup> Annealed temper are manufactured to a grain size only, consult mill for additional info.

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