

# Phosphor Bronze



## CuSn8 / CW453K / C52100

Version 1

Reference standard: EN 12166

Symbol	Number	Element	Cu	Fe	Ni	P	Pb	Sn	Zn	Bal.	Density g/cm <sup>3</sup>
CuSn8	CW453K	Min %	Rem	-	-	0.01	-	7.5	-	-	8.8
		Max %	-	0.1	0.2	0.4	0.02	8.5	0.2	0.2	

Phosphor bronze is a copper tin alloy with a trace of phosphorus. The level of tin varies from 5 - 8% depending on the alloy. Phosphor Bronze wire is manufactured in flat, round and square section in a full range of sizes and tempers to meet customer requirements. Phosphor Bronze wire is also offered in tinned condition.

Typical Tensile Strength N/mm <sup>2</sup>						
Size Range	Soft	¼ Hard	½ Hard	¾ Hard	Hard	Spring Hard
0.1-0.5mm	440-550	530-630	630-750	750-880	870-1000	1000min
0.5-1.5mm	420-520	510-610	610-720	720-840	840-950	950min
1.5-4.0mm	400-490	490-590	590-690	690-790	790-900	900min
4.0-8.0mm	-	-	560-660	650-750	-	-
4.0-20.0mm	390-470	460-560	-	-	-	-

### Physical Properties:

- Resistivity: 0.141 ( $\Omega \times \text{mm}^2/\text{m}$ )
- Melting Range: °C: 910 - 1040
- Elongation at soft temper: >25%

### Tolerances:

<0.25mm	±0.005mm
0.25-0.50mm	±0.008mm
0.50-1.00mm	±0.012mm
1.00-2.00mm	±0.02mm
2.00-4.00mm	±0.03mm

### Typical applications:

- Spring wire
- Resistance wire
- Industrial fasteners
- Brush wire



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