

## PHOSPHOR BRONZE SPRING WIRE

Alloy 510 Phosphor bronze is one of the most popular copperbase alloys used in spring making, because it provides both corrosion resistance and electrical conductivity. Gibbs Interwire stocks Grade "A" (95% copper, 4.75" tin, .25% phosphorus) spring wire, 8 numbers hard. Meets ASTM B159.

Chemical Composition Per ASTM-B-159		Dimensional Tolerances	Tolerance (inch)
Tin	4.20 – 5.80%	Up to .010	+ / - .0002
Phosphorus	.03 – .35%	Over .010 - .020 included	+ / - .0003
Iron	.10%	Over .020 - .030 included	+ / - .0005
Lead	.05%	Over .030 - .040 included	+ / - .0007
Zinc	.30%	Over .040 - .050 included	+ / - .0008
Copper	remainder	Over .050 - .060 included	+ / - .0010
		Over .060 - .080 included	+ / - .0015
		Over .080 - .150 included	+ / - .0020
		<sup>1</sup> Over .150 - .500 included	+ / - .0020
		<sup>2</sup> Over .500 - .750 included	+ / - .0030
		<sup>1</sup> Elongation Min 5%	
		<sup>2</sup> Elongation Min 9%	

## TENSILE STRENGTH TABLE (ASTM-B-159)

Diameter Inch	Tensile Min PSI	Tensile Min PSI	Tensile Max PSI
.025 and under	145,000	Over .125 to .250	125,000
Over .025 to .0625	135,000	Over .250 to .375	120,000
Over .0625 to .125	130,000	Over .375 to .500 included	105,000

The above charts are intended to provide general background information. You should also review the appropriate material specification. Please contact Gibbs Interwire if you have any questions.

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