

## 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. Wire is available in size ranges from .0158" - .162". Meets ASTM B159.

Chemical Composition Per ASTM-B-159			Dimensional Tolerances	Tolerance (inch)
Tin	4.20 – 5.80%			Up to .010
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
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.

### Limitation of Liability and Disclaimer of Warranty:

The content in these data sheets is provided primarily by third-party melting mills and is provided for reference only. It is not intended for engineering or design. Applications may be discussed; however, Gibbs Interwire does not recommend or endorse any material for any particular end use or application. The data included in this data sheet are typical values and may vary. Gibbs Interwire makes no representations or warranties, express or implied, as to the accuracy, completeness, condition, suitability, performance, fitness for a particular purpose, or merchantability of any information contained in any data sheet. In no event will Gibbs Interwire be liable for any damages whatsoever arising from the use of the information included in the data sheets.