

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 stocks Grade "A" (95% copper, 4.75% tin, .25% phosphorus) spring wire, 8 numbers hard. Wire is available in size ranges from .0158"-.162"

Chemical Composition Per ASTM-B-159 *Max values		Dimensional Tolerances	Tolerance (inch)
Tin	4.2 - 5.8%	Up to .010	+/- .0002
Phosphorus	.03 - .35%	Over .010 - .020, incl	+/- .0003
Iron	.10%*	Over .020 - .030, incl	+/- .0005
Lead	.05%*	Over .030 - .040, incl	+/- .0007
Zinc	.30%*	Over .040 - .050, incl	+/- .0008
Copper	remainder	Over .050 - .060, incl	+/- .0010
		Over .060 - .080, incl	+/- .0015
		Over .080 - .150, incl	+/- .0020
		Over .150 - .500, incl	+/- .0020
		Over .500 - .750, incl	+/- .0030
Tensile Strength Table (ASTM-B-159)			
Dia. Inch	Tensile Min PSI	Dia. Inch	Tensile Min 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, incl	105,000

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