

## PHOSPHATE COATED MUSIC WIRE

Music wire is one of the best, toughest, and most widely used materials for small springs. It has one of the highest tensile strengths and can withstand higher stresses under repeated loading than other spring materials. The fatigue life of music wire is excellent. It is not recommended for temperatures below 0<sup>o</sup> F or above 250<sup>o</sup> F. Music wire can be easily plated after forming. Gibbs music wire meets the latest revisions of ASTM-A-228. Wire is available in sizes from .005” - .283”. Music wire is also available with Zinc, Corrostan, and Nickel coatings (See Gibbs Technical Bulletins for Preco Z, Corrostan, and Preco N).

Chemical Composition Per ASTM-A-228 *Max values		Dimensional Tolerances	Tolerance (inch)
Carbon	0.70 – 1.00%	.004 to .010 incl	+-.0002
Maganese	0.20 - .70%	Over .010 to .028 incl.	+-.0003
Silicon	0.10 - .30%	Over .028 to .063 incl.	+-.0004
Phosphorus, max	0.025% *	Over .063 to .080 incl.	+-.0005
Sulfur, max.	0.030% *	Over .080 to .250 incl.	+-.0010
Iron	Balance		

Tensile Strength Table ( ASTM-A228 spec)

Dia. Inch	Tensile Min PSI	Tensile Max PSI	Dia. Inch	Tensile Min PSI	Tensile Max PSI	Dia. Inch	Tensile Min PSI	Tensile Max PSI
.004	439,000	485,000	.030	330,000	365,000	.100	271,000	300,000
.005	426,000	471,000	.032	327,000	361,000	.102	270,000	299,000
.006	415,000	459,000	.034	324,000	358,000	.107	268,000	296,000
.007	407,000	449,000	.036	321,000	355,000.	.110.	267,000	295,000
.008	399,000	441,000	.038	318,000	352,000	.112	266,000	294,000
.009	393,000	434,000	.040	315,000	349,000	.121	263,000	290,000
.010	387,000	428,000	.042	313,000	346,000	.125	261,000	288,000
.011	382,000	422,000	.045	309,000	342,000	.130	259,000	286,000
.012	377,000	417,000	.048	306,000	339,000	.135	258,000	285,000
.013	373,000	412,000	.051	303,000	335,000	.140	256,000	283,000
.014	369,000	408,000	.055	300,000	331,000	.145	254,000	281,000
.015	365,000	404,000	.059	296,000	327,000	.150	253,000	279,000
.016	362,000	400,000	.063	293,000	324,000	.156	251,000	277,000
.018	356,000	393,000	.067	290,000	321,000	.162	249,000	275,000
.020	350,000	387,000	.072	287,000	317,000	.177	245,000	270,000
.022	345,000	382,000	.076	284,000	314,000	.192	241,000	267,000
.024	341,000	377,000	.080	282,000	312,000	.207	238,000	264,000
.026	337,000	373,000	.090	276,000	305,000	.225	235,000	260,000
.028	333,000	368,000	.095	274,000	303,000	.250	230,000	255,000

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.