

## OIL TEMPERED CHROME SILICON WIRE COMMERCIAL QUALITY

This material is designed for springs that must withstand considerable shock and extreme heat. Chrome silicon can be used at temperatures up to 50<sup>0</sup> F higher than chrome vanadium. Recommendations for heat treatment: Immediately after coiling, the springs should be stress relieved at about 400°C. (750°F.) for 30 minutes. After shot peening, the springs should be stress relieved at about 250°C.(480°F.) for 30 minutes. Wire is available in size ranges from .018”-.625”.

Chemical Composition Per ASTM-A-401 *Max values		Dimensional Tolerances	Tolerance (inch)
Carbon	0.51 - 0.59%	.032 to .075, incl	+/- .001
Manganese	0.60 - 0.80%	Over .075 to .438, incl	+/- .002
Phosphorus	0.035% *	Over .438	+/- .003
Sulfur	0.040% *		
Silicon	1.20 - 1.60%		
Chromium	0.60 - 0.80%		

Tensile Strength Table ( ASTM-A-401)

Dia. Inch	Tensile Min PSI	Tensile Max PSI	Dia. Inch	Tensile Min PSI	Tensile Max PSI
.032	300,000	325,000	.192	260,000	283,000
.041	298,000	323,000	.219	255,000	278,000
.054	292,000	317,000	.250	250,000	275,000
.062	290,000	315,000	.312	245,000	270,000
.080	285,000	310,000	.375	240,000	265,000
.092	280,000	305,000	.438	235,000	260,000
.120	275,000	300,000	.500	230,000	255,000
.135	270,000	295,000	.562	228,000	253,000
.162	265,000	290,000	.625	226,000	251,000
.177	260,000	285,000			

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.