

# HM Wire International, Inc.

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## Alloy 745 - Nickel Silver Alloy

### Chemical Composition

Nominal Composition:	Cu%	Ni%	Zn%
	65%	10%	25%

Applications: Musical Instrument Parts, Optical Instruments, Radio Dials, Name Plates, Costume Jewelry, Zippers, Screws, Camera Parts and Bows.

### Physical Properties

Thermal Conductivity (watts/cm/°C):	0.452
Coefficient of Linear Expansion (X 10 <sup>-6</sup> in/in °C):	16.20 (20-300°C)
Youngs' Modulus (* 10 <sup>6</sup> PSI):	17
Density (lb / cu. in.)	0.314
Melting Point (°C)	1020
Melting Point (°F)	1870
Specific Heat @ 20 °C (cals/gm) :	0.09

### Electrical Properties

Specific Resistance (Ω - CM/F)	115
Specific Resistivity (μ Ω - cm <sup>2</sup> /cm)	691.7709336
Commercial Resistance Tolerance (on sizes below .020)	3.00%
Temperature Coefficient of Resistance (ohms/ohm/Deg. C {0 to 100 °C})	0.000414
Thermal EMF vs Copper	-0.014

### Tensile Strength

UTS Hard	105,000
UTS Stress Relieved	0
UTS Annealed	63,000
YTS Tensile - Hard	85,000
YTS Tensile - Stress Relieved	0
YTS Tensile - Annealed	30,000

\* Note: All values may vary dependant on specific design and usage.

\*To be used as a guideline only.

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