

# RODAR®



## RODAR® (UNS K94610)

Rodar® is an Iron-Nickel-Cobalt alloy with an unique linear thermal expansion coefficient. It is also stable to cryogenic temperatures. This combination of characteristics has prompted its application in electrical package sealing of glass/metal and ceramic/metal.

### GENERAL INFORMATION

Rodar® can be formed and deep drawn from the annealed temper. A 1/8 hard temper is optimum for heavy piercing. The material can be joined to other metals by welding, brazing, and soldering. The joint design must consider that Rodar® has a lower expansion coefficient than most other metals.

### AVAILABILITY

Rodar® is available from Hamilton Precision Metals as strip product in thicknesses from 0.001" to 0.060" (0.0254 mm to 1.524 mm) and width up to 12.0" (304.8 mm). The material conforms to ASTM F15, AMS 7728 and UNS K94610.



## Technical Data

TYPICAL MECHANICAL PROPERTIES <sup>1</sup>	
	ANNEALED
Ultimate Tensile Strength	75,000 PSI
Yield Strength (0.2% Offset)	50,000 PSI
Elongation in 2" *	30%
Modulus of Elasticity (Tension)	20 x 10 <sup>6</sup> PSI
Poisson's Ratio	0.317

\*The measured elongation will be less as thickness decreases to 0.002" and less.

<sup>1</sup> These values may be adjusted by control of process variables – consult HPM for desired values.

NOMINAL COMPOSITION	
Nickel	29.0%
Cobalt	17.0%
Iron	Balance

PHYSICAL PROPERTIES <sup>2</sup>	
Density	0.302 lbs/cu.in.
Melting Point (Approx.)	1455°C
Electrical Resistivity @ R.T.	49 Microhm · cm
Temperature Coefficient of Resistivity (25° to 100°C)	3700 PPM/°C
Thermal Expansion Coefficient (30° to 400°C)	4.9 x 10 <sup>-6</sup> /°C
Thermal Conductivity @ 100°C	16.7 W/m · K
Curie Temperature	435°C
Magnetic Attraction	Yes

<sup>2</sup> Typical values to guide alloy selection but are not a guarantee of minimum or maximum.

Disclaimer: The information contained within this data sheet is for guidance only and is not intended for warranty of individual application - express or implied.

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