

Comparative Properties of NiColoy® and Nickel				
Property	High Hardness, NiColoy® - H	High Strength, NiColoy® - E	Electroformed Nickel	Comments
Ultimate Tensile Strength (psi/MPa)	210,000/1448	140,000/965	91,500/631	NiColoy® has higher tensile strength than Nickel
Yield Strength (psi/MPa)	185,000/1275	100,000/690	61,000/420	NiColoy® resists permanent deformation better than Nickel
Hardness, Rc	45 - 55	35 - 45	< 20	
Modulus of Elasticity in Bending (Kpsi/MPa)	24,000/165,000	22,500/155,000	21,000/145,000	NiColoy® has higher elasticity than Nickel
Poisson's Ratio	0.31	0.31	0.31	
Shear Modulus (Kpsi/MPa)	9,200/63.4	8,400/57.9	8,000/55.2	
Elongation at Break (%)	0.25 - 2	1.5 - 5	15 - 25	
Typical Composition	Nickel 95% Min. Cobalt - balance	Nickel 90% Min. Cobalt - balance	Nickel - 99.5% Min.	
Max Temp Rating (°F/°C)	660-925/350-500*	660-925/350-500*	350/177	NiColoy® withstands substantially higher temperatures than electroformed Nickel
Coefficient of Thermal Expansion, mean linear at 20 °C, µm/m/°C, at 25°C	13.3	13.3	no data	
Thermal Conductivity, W/m°K	87.5	87.5	no data	

* The listed mechanical performance is maintained up to 350 ° C. Higher temperatures will result in temperature dependent reduction in performance characteristics.

Data contained in this table is for informational purposes only and may be revised at any time without prior notice. Nothing contained in this document should be construed as guaranteeing the material's suitability for a particular use or application.