



Deriney 72

General Alloy Overview

ASTM
N/A

Application Examples
Radiopaque guidewire tip
microcoils; cantilever probes;
vertical probes; wear and
corrosion resistant bearing
material

Industry Examples
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Tempers
Annealed, SR, CW > 70% AR,
CW < 70% AR, HTCW > 70% AR,
HTCW < 70% AR

Available Forms
Rod, Wire, Strip, Cut-Offs,
Probes

Constant (Temper - Independent) Properties

Solidus, °F (°C)	2831 (1555)	Thermal EMF vs. Pt, $\mu\text{V}/^\circ\text{F}$ ($\mu\text{V}/^\circ\text{C}$)	14.8 (26.7)
Liquidus, °F (°C)	2867 (1575)	Specific Heat Capacity, Btu/lb-°F (J/g-K)	0.04776 (0.2)
Melting Range, °F (°C)	68 (20)	Elastic Modulus, Msi (GPa)	29.6 (204)
Density dwt/in³ (g/cm³)	172.8 (16.4)	Shear Modulus Msi (GPa)	10.84 (75)
Electrical Resistivity, $\mu\Omega\text{-cmf}$ ($\mu\Omega\text{-cm}$)	297 (49.3)	Poisson's Ratio	0.363
Electrical Conductivity, %IACS	3.5	Single phase/multiphase	Single Phase
Temperature Coefficient of Resistance, /°F (/K)	0.00033 (0.0006)	Lattice parameter	3.68
Thermal Conductivity, Btu/hr-ft-°F (W/m-K)	8.4 (14.5)	Emissivity	0.368
Coefficient of Thermal Expansion, /°F (/K)	0.0000067 (0.000012)		

Annealed Properties

0.2% Offset Yield Strength, ksi (MPa)	165 (1140)	Knoop Microhardness, HK100	334.8
Ultimate Tensile Strength, ksi (MPa)	205 (1410)	Vickers Microhardness, HV100	327.4
Elongation to Failure, %	13		

Stress Relieved Properties

0.2% Offset Yield Strength, ksi (MPa)	247 (1703)	Knoop Microhardness, HK100	456.4
Ultimate Tensile Strength, ksi (MPa)	283 (1948.5)	Vickers Microhardness, HV100	445.4
Elongation to Failure, %	1		



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CW > 70% AR Properties

Material Tested: Wire
Size: 0.001-0.004in (25-100 um) diameter

0.2% Offset Yield Strength, ksi (MPa)	310 (2140)	Elongation to Failure, %	2
Ultimate Tensile Strength, ksi (MPa)	330 (2270)	Knoop Microhardness, HK100	530

CW >70% AR Properties

Material Tested: Wire
Size: 0.004-0.040in (0.10-1.0 mmm) diameter

0.2% Offset Yield Strength, ksi (MPa)	250 (1720)	Knoop Microhardness, HK100	250 (1720)
Ultimate Tensile Strength, ksi (MPa)	280 (1930)	Vickers Microhardness, HV100	
Elongation to Failure, %	2		

CW <70% AR Properties

Material Tested: Wire
Size: Size: 0.004-0.040in (25-100 um) diameter

0.2% Offset Yield Strength, ksi (MPa)	200 (1380)	Elongation to Failure, %	3
Ultimate Tensile Strength, ksi (MPa)	230 (1580)		

HTCW >70% AR Properties

Material Tested: Wire
Size: 0.001-0.004in (25-100 um) diameter

0.2% Offset Yield Strength, ksi (MPa)	369 (2545)	Elongation to Failure, %	2
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HTCW <70% AR Properties

Material Tested: Wire
Size: 0.004-0.040in (0.10-1.0 mmm) diameter

0.2% Offset Yield Strength, ksi (MPa)	369 (2545)	Elongation to Failure, %	2
Ultimate Tensile Strength, ksi (MPa)	370 (2550)	Knoop Microhardness, HK50	530