

# MP35N<sup>®</sup>-LTi



## MP35N<sup>®</sup>-LTi (UNS R30035)

MP35N<sup>®</sup>-LTi is a nonmagnetic nickel-cobalt-chromium-molybdenum alloy that has excellent corrosion resistance, can obtain ultrahigh tensile strengths (300 ksi) through work hardening and aging, and has good toughness and ductility. Applications include electrical components, springs, and instrument parts in medical, chemical, food processing and marine environments.

### GENERAL INFORMATION

After work hardening, MP35N<sup>®</sup> alloy can be aged in the temperature range of 800/1200°F for increased strength. MP35N<sup>®</sup> will only respond to aging if in the work hardened condition. Service temperatures up to 750°F are recommended for work hardened material. MP35N<sup>®</sup> can be successfully TIG welded. MP35N<sup>®</sup> is produced by double vacuum melting, and as such, has a low nonmetallic inclusion level.

### AVAILABILITY

MP35N<sup>®</sup>-LTi is available from Hamilton Precision Metals as strip product in thicknesses from 0.0005" to 0.030" (0.0127 mm to 0.762 mm) and widths to 5.0" (127 mm). A foil product is available in thicknesses down to 0.0001" (0.00254 mm) and widths of 4.0" (101.6 mm). The material corresponds to UNS R30035.



## Technical Data

TYPICAL MECHANICAL PROPERTIES <sup>1</sup>			
	ANNEALED	COLD ROLLED	COLD ROLLED & HEAT TREATED
Ultimate Tensile Strength	135,000 PSI	275,000 PSI	300,000 PSI
Yield Strength (0.2% Offset)	57,000 PSI	240,000 PSI	290,000 PSI
Elongation in 2" *	40%	1%	1%
Rockwell Hardness	RB 94	RC 50	RC 55
Modulus of Elasticity	33.76 ksi x 10 <sup>3</sup>	-	-

\*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.

PHYSICAL PROPERTIES <sup>2</sup>	
Density	0.304 lbs./cu.in.
Melting Point (Approx.)	2400°F
Electrical Resistivity @ R.T.	103 Microhm · cm
Thermal Expansion Coefficient (RT to 200°C)	13.7 ppm/°C
Thermal Conductivity @ R.T.	11.2 W/m · K
Magnetic Permeability @ R.T.	1.0009

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

NOMINAL COMPOSITION	
Nickel	35%
Cobalt	33.5%
Chromium	20.5%
Molybdenum	9.5%
Titanium	0.01%
Iron	0.5%
Carbon	0.01%
Boron	0.01%