

# HPM<sup>®</sup> X-750



## HPM<sup>®</sup> X-750 (UNS N07750)

HPM<sup>®</sup> X-750 is a precipitation –hardenable nickel-chromium alloy which is well suited for a wide range of corrosive and oxidizing environments where strength must be maintained to elevated temperatures. The alloy composition provides a product which performs well at elevated temperatures up to 1300° Fahrenheit. The strength can be increased by heat treatment.

### AVAILABILITY

HPM<sup>®</sup> X-750 is available from Hamilton Precision Metals as strip product in thicknesses from 0.001" to 0.025" (0.0254 mm to 0.635 mm) in widths up to 12.0" (304.8 mm). The material conforms to AMS 5542, AMS 5598 and UNS N07750.

### GENERAL INFORMATION

The alloy is readily formable in the annealed temper and can be joined by the standard welding and brazing processes.



## Technical Data

TYPICAL MECHANICAL PROPERTIES <sup>1</sup>		
	ANNEALED	COLD ROLLED
Ultimate Tensile Strength	110,000 PSI	185,000 PSI
Yield Strength (0.2% Offset)	50,000 PSI	125,000 PSI
Elongation in 2" *	40%	10%
Modulus of Elasticity (Tension)	31 x 10 <sup>6</sup> PSI	-

\*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 specific melt chemistry and process variables to obtain discrete ranges of strength and ductility. Consult Hamilton Precision Metals for desired limits to meet application need.

PHYSICAL PROPERTIES <sup>2</sup>	
Density	0.298 lbs/cu.in.
Melting Point (Approx.)	1400°C
Electrical Resistivity @ R.T.	121 Microhm · cm
Thermal Expansion Coefficient (20° to 100°C)	12.6 x 10 <sup>-6</sup> /°C
Thermal Conductivity @ R.T.	12.0 W/m · K
Curie Temperature	-125°C
Magnetic Permeability	1.002
Magnetic Attraction	None

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

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NOMINAL COMPOSITION	
Chromium	16.0%
Nickel	72%
Iron	7.0%
Titanium	2.5%
Aluminum	0.75%
Niobium & Tantalum	1.0%