

HPM® 625



HPM® 625 (UNS N06625)

HPM® 625 is a nickel-chromium-molybdenum alloy with niobium which is well suited for a wide range of severe corrosive environments. The alloy composition provides a product which performs well at elevated temperatures up to 1800°F. The strength can be increased by cold working.

GENERAL INFORMATION

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

AVAILABILITY

HPM® 625 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 ASTM B443, AMS 5599 and UNS N06625.**

** Hamilton Precision Metals can also supply product to AMS 5879 (UNS N06626) for demanding fatigue applications, which incorporates double melting, and restrictive limits for Carbon and Nitrogen.



Technical Data

TYPICAL MECHANICAL PROPERTIES ¹		
	ANNEALED	COLD ROLLED
Ultimate Tensile Strength	135,000 PSI	180,000 PSI
Yield Strength (0.2% Offset)	75,000 PSI	160,000 PSI
Elongation in 2" *	45%	2%
Modulus of Elasticity (Tension)	30 X 10 ⁶ PSI	-
Poisson's Ratio	0.28	-

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

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

NOMINAL COMPOSITION	
Chromium	22.0%
Nickel	61.0%
Iron	4%
Niobium	3.5%
Molybdenum	9.0%

PHYSICAL PROPERTIES ²	
Density	0.305 lbs./cu.in.
Melting Point (Approx.)	1290°C
Electrical Resistivity @ R.T.	129 Microhm · cm
Temperature Coefficient of Resistivity (20° to 100°C)	13.3 x 10 ⁻⁶ / °C
Thermal Conductivity @ R.T.	9.8 W/m · K
Curie Temperature	< - 196°C
Magnetic Permeability at 200 Oe	1.0006
Magnetic Attraction	None

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