

HPM[®] 80/20 AL



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HPM[®] 80/20 AL is a resistance alloy with a unique composition that provides deep draw capability. It is used as a heating element in electronic applications.

GENERAL INFORMATION

HPM[®] 80/20 AL has good forming characteristic and can be deep drawn. It is not suitable for extended exposure to air at the elevated temperatures.

AVAILABILITY

HPM[®] 80/20 AL is available from Hamilton Precision Metals as strip product in thicknesses from 0.0005" to 0.050" (0.0127 mm to 1.27 mm) and width up to 12.0" (304.8 mm).

Foil Product may be supplied to a thickness of 0.0001" (0.00254 mm) in width up to 4.0" (101.6 mm).



Technical Data

TYPICAL MECHANICAL PROPERTIES ¹		
	ANNEALED	COLD ROLLED
Ultimate Tensile Strength	105,000 PSI	190,000 PSI
Yield Strength (0.2% Offset)	50,000 PSI	185,000 PSI
Elongation in 2" *	35%	1%
Grain Size	0.010 mm	
Modulus of Elasticity (Tension)	31 X 10 ⁶ PSI	

* 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	19.5%
Silicon	0.2%
Iron	0.1%
Nickel	Balance

PHYSICAL PROPERTIES ²	
Density	0.304 lbs./cu.in.
Melting Point (Approx.)	1400°C
Electrical Resistivity @ R.T.	108 Microhm · cm
Temperature Coefficient of Resistivity (25° to 100°C)	100 PPM/°C
Thermal Expansion Coefficient (20° to 100°C)	13.4 X 10 ⁶ /°C
Thermal Conductivity @ 100°C	15.0 W/m · K
Magnetic Attraction	None

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