

Hi-Perm 80

Hi-Perm 80 Alloy, NiFe15Mo+C265

Identification				
VMI No.	8015			
UNS No.	n/a			
Relevant Specifications	ASTM A753-02 alloy 4, MIL-N-14411C			
Forms	Strip	Wire	Bar	Sheet
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Description	Hi-Perm 80 is a soft magnetic material, praised for its high permeability, used in differential current transformer cores and relay parts for residual current devices (RCDs), current transformers, magnetic shielding and parts for sensors.			
Chemical Composition (%)				
Nickel	80 Nominal			
Iron	15 Nominal			
Molybdenum	5 Nominal			
Manganese	0.3-0.5			
Silicon	0.1-0.4			
Mechanical Properties (all values are for annealed temper; not intended for specification)				
Tensile	90	ksi		
	620	MPa		
Yield	35	ksi		
	240	MPa		
Elongation	30	% in 2"		
	30	% in 50mm		
Hardness	78	HRB		
	145	Hv		
Physical Properties				
Density	0.3143	lb/in ³		
	8.7	g/cm ³		
Resistivity (Nominal)	360	Ohm•circ mil/ft		
	60	microOhm•cm		
Coefficient of Thermal Expansion from 68°F (20°C) to	212°F	392°F	572°F	752°F
	100°C	200°C	300°C	400°C
	7.5	-----	-----	-----
	13.5	-----	-----	-----

