

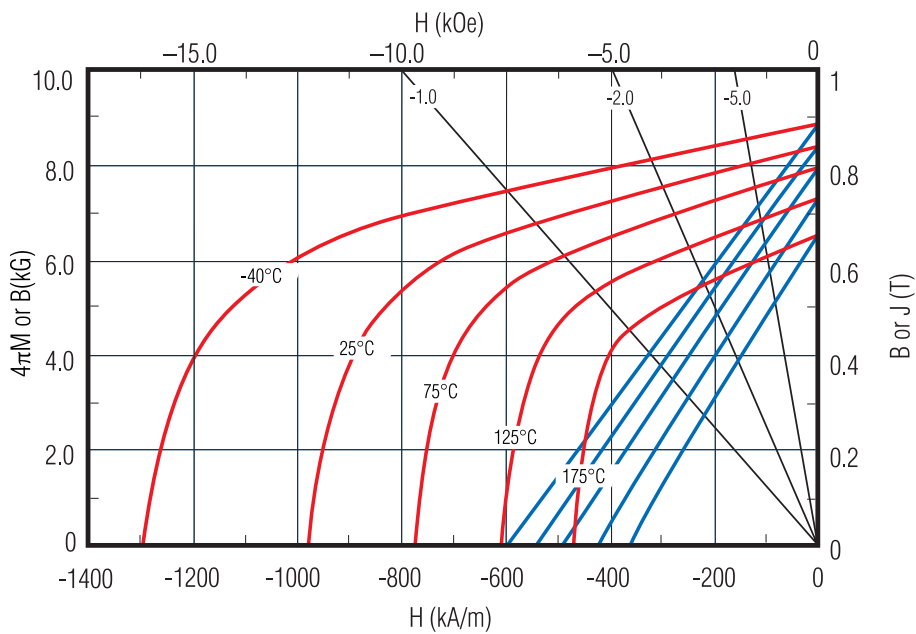
MQP™ -14-12-20000-070 ISOTROPIC POWDER*

Material Description

MQP-14-12-20000-070 is an isotropic magnet powder suitable for the manufacture of bonded magnets. It is based on a patented Nd-Fe-Nb-B alloy composition specifically designed for high magnetic flux and high temperature applications, such as under-the-hood automotive motors and sensors. This material is produced by employing a proprietary rapid solidification process followed by a milling process and heat treatment.

Powder Magnetic Characteristics¹

		SI	CGS
Specified	Residual Induction, B_r	820-850 mT	8.20-8.50 kG
	Energy Product, $(BH)_{max}$	107-120 kJ/m ³	13.4-15.1 MGOe
	Intrinsic Coercivity, H_{ci}	940-1050 kA/m	11.8-13.2 kOe
Typical	Coercive Force, H_c	550 kA/m	6.9 kOe
	Magnetizing Field to >95% Saturation (Min.), H_s	≥1600 kA/m	≥20 kOe
	Temperature coefficient of B_r , α , to 100°C	-0.13 %/°C	
	Temperature coefficient of H_{ci} , β , to 100°C	-0.4 %/°C	
	Curie Temperature, T_c	305 °C	
	Maximum Operating Temperature ²	140-180 °C	
	Maximum Process Temperature ³	250 °C	



Physical Characteristics

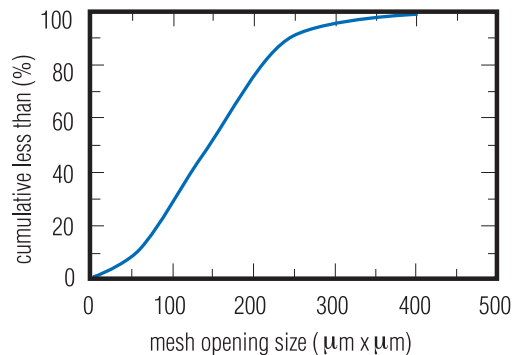
Specified

Sieve Screen Analysis:

- Total > 40 Mesh (420x420 μm opening) < 0.1 wt. %
- Total > 60 Mesh (250x250 μm opening) < 25 wt. %
- Total < 270 Mesh (53x53 μm opening) < 12 wt. %

Typical

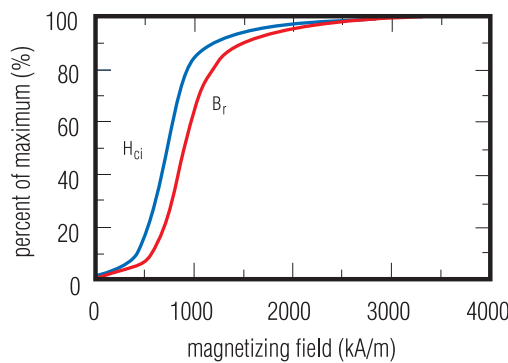
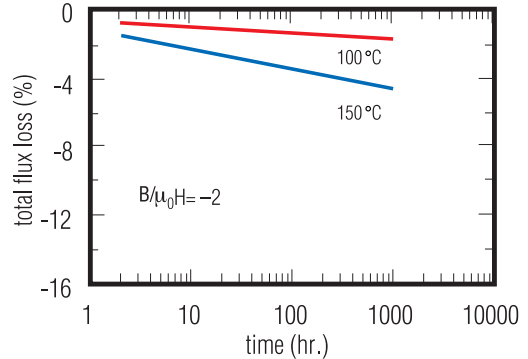
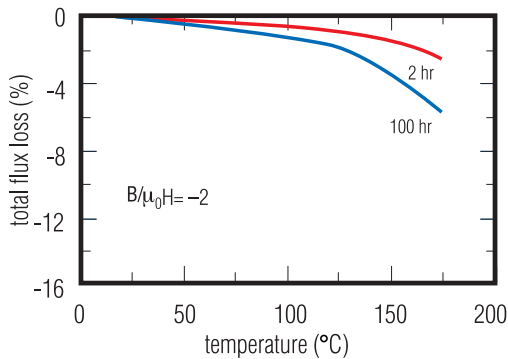
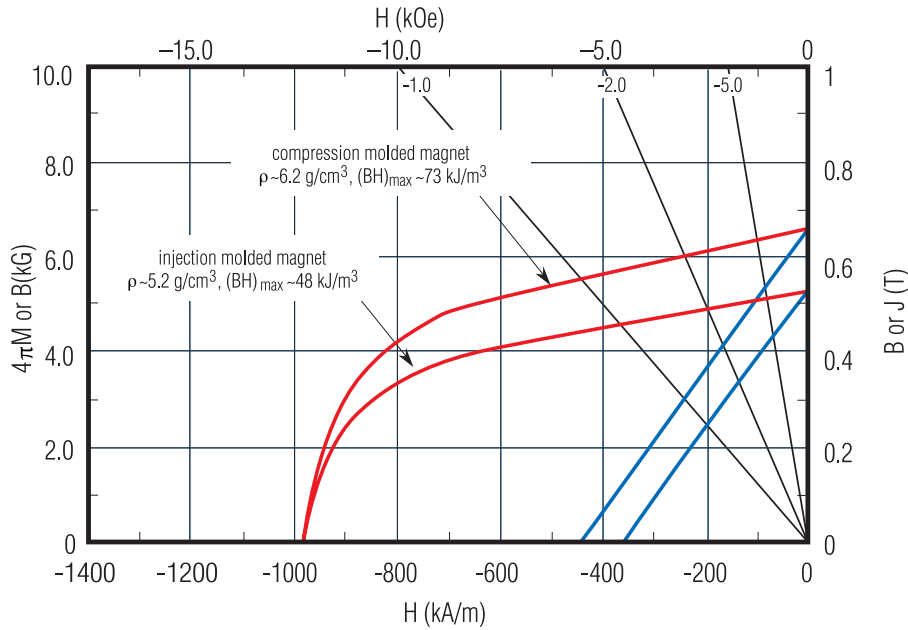
- Density (theoretical) 7.62 g/cm³
- Apparent Density 2.7 g/cm³



* Contact Magnequench to obtain up-to-date product specifications and for assistance in selecting the ideal product for your application.

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Bonded Magnet Characteristics⁴



¹ Properties measured at 25°C, unless otherwise specified.
² The Maximum Operating Temperature for a magnet made from this powder is dependent upon the specific application, the type of magnet, and magnet geometry. Contact your local sales representative for more information.
³ Maximum Process Temperature is defined here as <2% reduction in flux (i.e. structural loss) after heating powder 1 hour in air.
⁴ These properties are typical at 25°C and are representative only. Bonded magnet properties are dependent upon powder loading and magnet manufacturing conditions. Contact your local sales representative for information about our products.

These powders, the products that are made therefrom, and their manufacturing processes are subject to one or more of the following United States Patents: 5,056,585; 5,172,751; 5,174,362; 5,411,608; 5,645,651; 6,183,572; 6,478,890; 6,979,409; 7,144,463