

# MQP™ -16-7-20068-070

**ISOTROPIC POWDER\***  
Former Name: MQP-16-7A

## Material Description

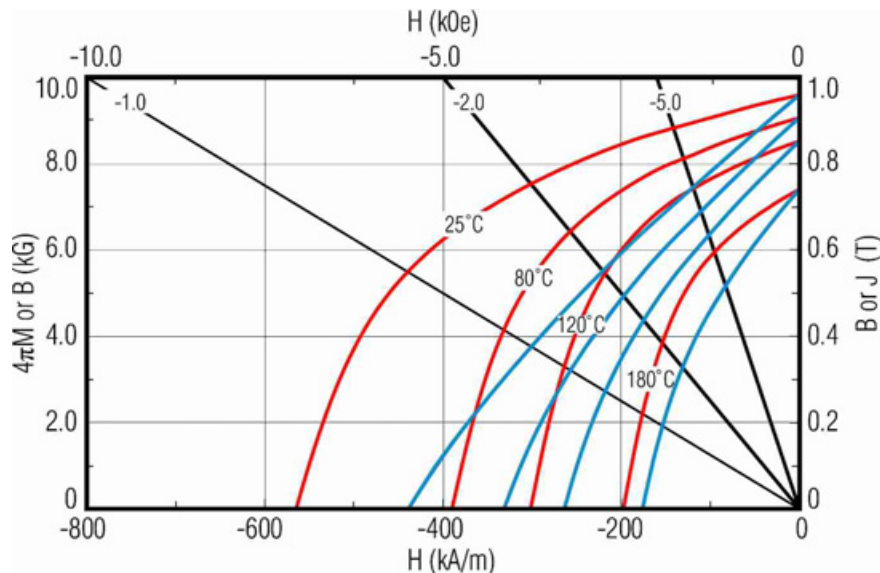
With specified Residual Induction (Br) of nearly 1.0 Tesla, MQP-16-7-20068-070 is one of the highest performing products in the isotropic bonded magnet industry. MQP-16-7-20068-070 is cost optimized as it does not employ any cobalt. It is targeted at ODD spindle motor magnets as well as multi-pole sintered ferrite stepper motor and other similar magnets. Its lower Intrinsic Coercivity makes this material ideal for replacing ferrite magnets in many diverse applications. This material is produced by employing a proprietary rapid solidification process followed by a milling process and heat treatment.

## Powder Magnetic Characteristics<sup>1</sup>

**SI**

**CGS**

<b>Specified</b>	Residual Induction, $B_r$ .....	940 - 980 mT.....	9.40 - 9.80 kG
	Energy Product, $(BH)_{max}$ .....	114 - 130 kJ/m <sup>3</sup> .....	14.3 - 16.3 MGOe
	Intrinsic Coercivity, $H_{ci}$ .....	525 - 605 kA/m.....	6.6 - 7.6 kOe
<b>Typical</b>	Coercive Force, $H_c$ .....	435 kA/m.....	5.5 kOe
	Magnetizing Field to >95% Saturation (Min.), $H_s$ .....	≥1600 kA/m.....	≥20 kOe
	Temperature coefficient of $B_r$ , $\alpha$ , to 100°C.....	-0.12 %/°C	
	Temperature coefficient, $H_{ci}$ , $\beta$ , to 100°C.....	-0.52 %/°C	
	Curie Temperature, $T_c$ .....	291 °C	
	Maximum Operating Temperature <sup>2</sup> .....	80-120 °C	
	Maximum Process Temperature <sup>3</sup> .....	250 °C	



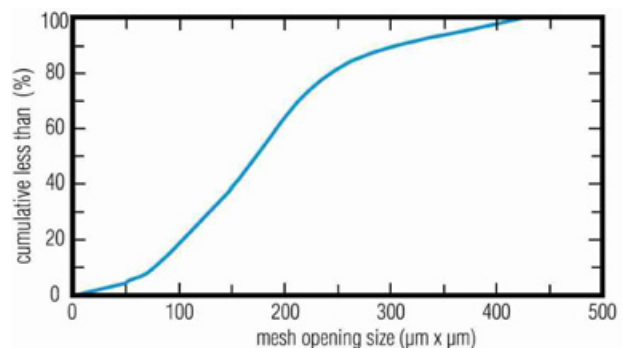
## Physical Characteristics

### Specified

Sieve Screen Analysis:  
 Total > 40 Mesh (420x420μm opening).....< 0.1 wt. %  
 Total > 60 Mesh (250x250μm opening).....< 25 wt. %  
 Total < 270 Mesh (53x53μm opening).....< 12 wt. %

### Typical

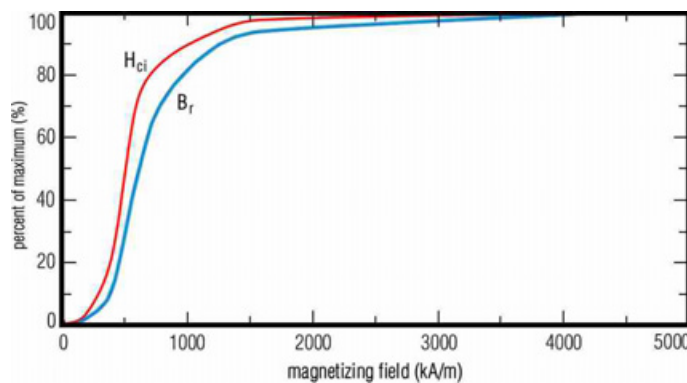
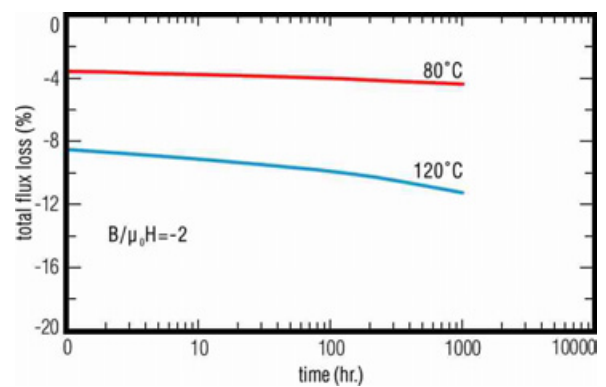
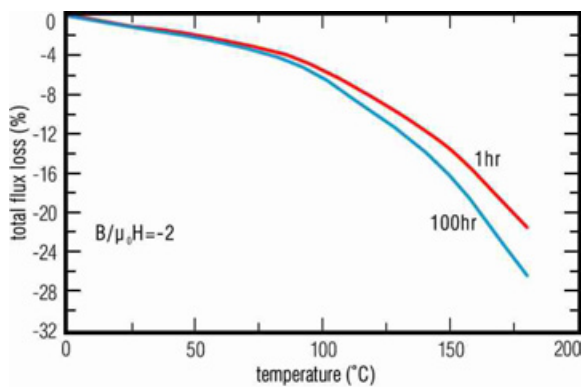
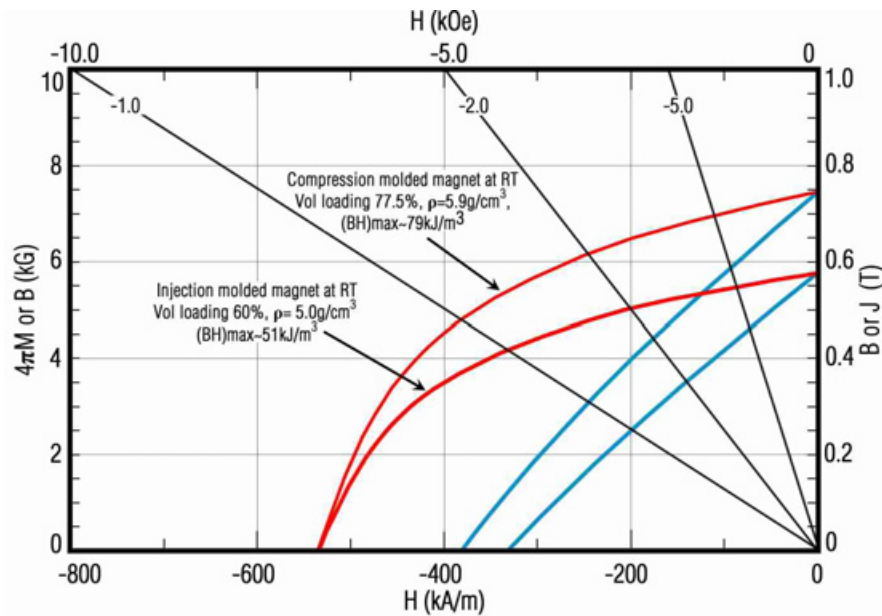
Density (theoretical).....7.61 g/cm<sup>3</sup>  
 Apparent Density.....2.81 g/cm<sup>3</sup>



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

**MQP™-16-7-20068-070 ISOTROPIC POWDER**

**Bonded Magnet Characteristics<sup>4</sup>**



<sup>1</sup> Properties measured at 25°C, unless otherwise specified.

<sup>2</sup> 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.

<sup>3</sup> Maximum Process Temperature is defined here as <2% reduction in flux (i.e. structural loss) after heating powder 1 hour in air.

<sup>4</sup> 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