MAGWORKS
Magnetic Machining Experts

Bonded NdFeB

Plastic Bonded Neodymium Iron Boron Magnets

Bonded Neodymium magnets are produced using compression moulding techniques in simple tools & can be quickly machined into complex shapes. The material is Isotropic offering approximately 10 MGO or 30% of the energy seen in the sintered fully dense material. It has a maximum operating temperature of 120°C and a rather poor temperature coefficient; the Curie temperature is 340°C. Due to its high Iron content these magnets are prone to corrosion and care is needed to avoid moisture or hostile environments. Additional coating is recommended, such as black or grey epoxy. It does have one major advantage over other Rare Earth magnet materials; its Isotropic nature allows it to be magnetised in any direction. It is also possible to have complex multiple pole magnetisation making it an ideal choice for the computer peripheral industries for such applications as small precision motors. Radial and multiple pole magnetisation requires special magnetising fixtures.

Bonded NdFeB Specification										
MSS GRADE	Residual Induction B_r		Coercive Force H_c		Intrinsic Coercive Force H_{ci}		Maximum Energy Product $(BH)_{max}$		Max. Operating Temp.*	
	Nominal		Nominal		Minimum		Nominal		Nominal	
	Gauss	mT	kOe	kA/m	kOe	kA/m	MGOe	kJ/m3	°C	°F
PN10	6800	680	5.78	460	10.30	820	10	80	120°	248°

Other grades are available - please ask

Reversible Temperature Coefficient - Bonded NdFeB	
Induction Br (α) (%)/°C	Intrinsic Coercivity Hci (β) (%)/°C
-0.11	-0.36

Properties - Bonded NdFeB		
Property	Units	Value
Vickers Hardness	Hv	45
Density	g/cm^3	5.8-6.1
Curie Temp T_C	°C	340
Curie Temp T_F	°F	644
Specific Resistance	μΩ·Cm	0.01
Recoil Permeability		1.1