



Product name : 10 x 10 x 10 / N42 - NdFeB (neodymium) magnet

PERFORMANCE PARAMETERS

Length	10 [mm]
Width	10 [mm]
Height	10 [mm]
magnetizing direction along dimension	10 [mm] parallel to height
Material	Neodymium
Grade	N42
Maximum working temperature	80 °[C]
For flat magnets and magnets mounted in the open magnetic circuit working temperature may be insignificantly lower. For high magnets and magnets mounted in the closed magnetic circuit working temperature equals max. working temperature for a given material. Curie's temperature is ~ 310°C]. Temperature coefficient of remanence TK(Br: approx. ~0,12 %/°[C]. Temperature coefficient of coercivity TK(HcJ): approx. -0,6 %/°[C].	
Coating	Nickel (NiCuNi)
Weight	7,5 [g]
Sintered neodymium magnets are brittle (fragile). A neodymium magnet without housing could break after an impact with another strong magnet.	
All the numbers quoted were obtained as a result of tests with one specific item in a room temperature and are intended to serve for comparison of practical magnetic properties of magnets offered by the shop.	

MAGNETIC PROPERTIES OF MATERIAL GRADE N42

remanence B_r	1,28 - 1,32 [T]
coercivity H_cB	min. 923 [kA/m]
coercivity H_cJ	min. 955 [kA/m]
energy product $(BH)_{max}$	318 - 342 [kJ/m ³]
Magnetic properties of a particular material, together with its shape, volume, max. working temperature and direction of magnetization have influence on practical magnetic properties of a magnet.	
As an example, you will find attached a graph of a course of the II quadrant of magnetic hysteresis loop for a material grade N42.	

MAGNETIC PROPERTIES OF MATERIAL GRADE N38

density	~7,5 [g/cm ³]
Vickers hardness (HV)	~600 [kg/mm ²]
resistivity	~144 [uOhm x cm]

TECHNICAL DRAWING

