



Product name : 3 x 3 x 3 / N42 - NdFeB (neodymium) magnet

PERFORMANCE PARAMETERS

Length	3 [mm] +0,1/-0,1
Width	3 [mm] +0,1/-0,1
Height	3 [mm] +0,1/-0,1
magnetizing direction along dimension	3 [mm] parallel to height
Grade	N42
Magnet type	Neodymium
Coating	Nickel (NiCuNi)
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].	
Weight	0,2 [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_J	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

