

-B/(μ0\*H) 1.60 0.75 3 4 1.40 1.20 polarization J, flux density B [T] 1.00 0.80 0.60 0.40 0.20 0.00 -2500.0 -2000.0 -1500.0 -1000.0 -500.0 0.0 demagnetization field H [kA/m] Temperature in [°C]: 20.0 80.0 100.0 120.0 150.0 180.0 magnetic properties Br min 1.250 12.5 kG Remanence 20°C Br nom 1.300 13.0 kG kA/m k0e HcB min 899 11.3 Coercitivity 20°C kOe 1000 kA/m 12.6 HcB nom k0e HcJ min 1989 kA/m 25.0 Intrinsic Coercitivity 20°C HcJ nom 1995 kA/m 25.1 kOe MG0e BH max, min 302 kJ/m<sup>3</sup> 37.9 Maximum Energy Product 20°C BH max, nom kJ/m<sup>3</sup> MG0e 318 39.9 -0.100 ~ -0.120 %/°C  $\alpha$  Br nom Reversible Temperature Coefficient 1) -0.51 ~ -0.66 β HcJ nom %/°C material properties (typical values) T max Max. Operating Temperature 2) °C 180 Density 7.55 g/cm<sup>3</sup> Permeability 20°C 1.05 μr Vickers Hardness 500 - 600 HV Modulus of Elasticity 150 - 200 Ε kN/mm<sup>2</sup> **Copressive Strength** 1000 - 1100 N/mm<sup>2</sup> Flexural Strength 250 N/mm<sup>2</sup> **Expansion Coefficient** 10<sup>-6</sup>/K Expansion Coefficient in direction of -3 - 0 10<sup>-6</sup>/K // 4 - 9 10<sup>-6</sup>/K anisotropy Specific Electric Resistance 1.2 - 1.6 μΩ·m pel **Specific Heat Capacity** 440 J/(kg·K) Thermal Conductivity 8.0 - 10.0 W/m'K

BMN-40UH

NdFeB sintered

Note:

The above plotted graphs are idealized and represent theoretical values of the material. Shown are curves according nominal values based on uncoated material samples according to IEC 60404-5. Material and magnetic data represent typical data that may vary due to product shape, size and coating. Please contact Bomatec regarding specific requirements for your application.

Bomatec | Hofstrasse 1 | Tel. +41 44 872 10 00 | Fax. +41 44 872 10 01 | contact@bomatec.ch | www.bomatec.com

<sup>1)</sup> The shown temperature coefficients are nominal reference values only . They can vary for different temperatures and don't need to be linear.

<sup>2)</sup> The maximum operating temperature is depending on the magnet shape, size and on the specific application.