magnetic properties

Remanence 20°C
Br min 1.130 T 11.3 kG
Br nom 1.170 T 11.7 kG

Coercitivity 20°C
HcB min 836 kA/m 10.5 kOe
HcB nom 891 kA/m 11.2 kOe

Intrinsic Coercitivity 20°C
HcJ min 1353 kA/m 17.0 kOe
HcJ nom 1360 kA/m 17.1 kOe

Maximum Energy Product 20°C
BH max, min 239 kJ/m³ 30.0 MGOe
BH max, nom 263 kJ/m³ 33.0 MGOe

Reversible Temperature Coefficient
α Br nom -0.100 ~ -0.120 %/°C
β HcJ nom -0.55 ~ -0.66 %/°C

material properties (typical values)

Max. Operating Temperature
T max 120 °C

Density
ρ 7.55 g/cm³

Permeability 20°C
µr 1.05

Vickers Hardness
500 - 600 HV

Modulus of Elasticity
E 150 - 200 kN/mm²

Compressive Strength
1000 - 1100 N/mm²

Flexural Strength
250 N/mm²

Expansion Coefficient
- 10⁻⁶/K

Expansion Coefficient in direction of anisotropy
\( / / \) 1.0 - 3.0 10⁻⁶/K
\( \perp \) 3.0 - 4.0 10⁻⁶/K

Specific Electric Resistance
\( \rho_{el} \) 1.4 - 1.6 \( \mu \Omega \cdot m \)

Specific Heat Capacity
c 440 J/(kg K)

Thermal Conductivity
\( \lambda \) 8.0 - 10.0 W/m K

1) The shown temperature coefficients are nominal reference values only. They can vary for different temperatures and don’t need to be linear.
2) The maximum operating temperature is depending on the magnet shape, size and on the specific application.

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.

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