![ARNOLD MAGNETIC TECHNOLOGIES]

# N42

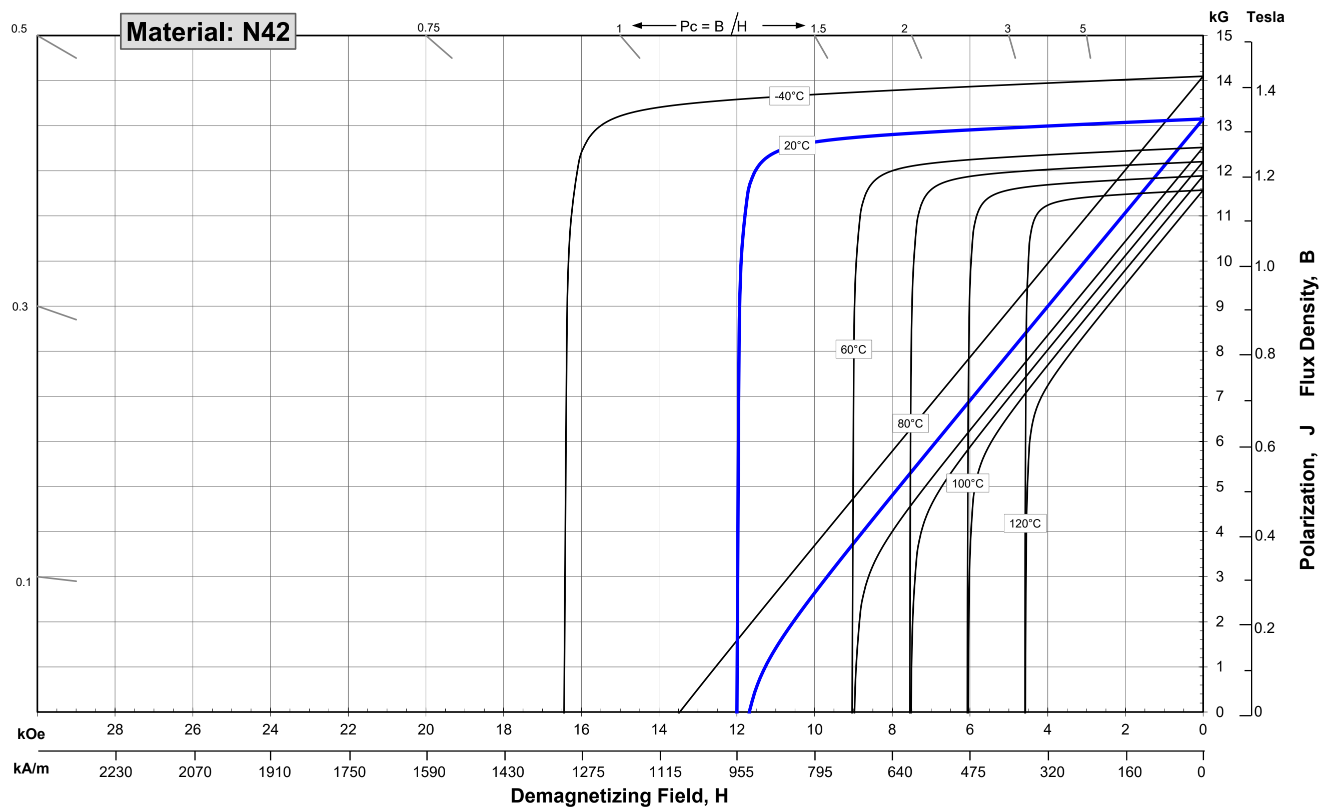
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

| | Characteristic | Units | min. | nominal | max. |
|---|---|---|---|---|---|
| Magnetic Properties | **Br**, Residual Induction | Gauss | 12,800 | 13,150 | 13,500 |
| | | mT | 1280 | 1315 | 1350 |
| | **$H_{cB}$**, Coercivity | Oersteds | 10,800 | 11,850 | 12,900 |
| | | kA/m | 860 | 943 | 1027 |
| | **$H_{cJ}$**, Intrinsic Coercivity | Oersteds | 12,000 | | |
| | | kA/m | 955 | | |
| | **BHmax**, Maximum Energy Product | MGOe | 40 | 42 | 44 |
| | | $kJ/m^3$ | 318 | 334 | 350 |

| | Characteristic | Units | C // | C ⊥ |
|---|---|---|---|---|
| Thermal Properties | Reversible Temperature Coefficients [1] | | | |
| | of Induction, α(Br) | %/ºC | -0.12 | |
| | of Coercivity, α(Hcj) | %/ºC | -0.62 | |
| | Coefficient of Thermal Expansion [2] | ΔL/L per $ºC \times 10^{-6}$ | 7 | -1 |
| | Thermal Conductivity | kcal/mhrºC | 5.3 | 5.8 |
| | Specific Heat [3] | cal/gºC | 0.11 | |
| | Curie Temperature, Tc | ºC | 310 | |
| Other Properties | Flexural Strength | psi | 41,300 | |
| | | MPa | 285 | |
| | Density | $g/cm^3$ | 7.6 | |
| | Hardness, Vickers | Hv | 620 | |
| | Electrical Resistivity, ρ | μΩ • cm | 150 // 130 ⊥ | |

**Notes:**
(1) Coefficients measured between 20 and 80 ºC
(2) Between 20 and 200 ºC. Values are typical and can vary.
(3) Between 20 and 140 ºC




1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

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**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size.
**Demagnetization curves show nominal Br and minimum Hci.**
Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications.
Additional grades are available. Please contact the factory for information.




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