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.

### Magnetic Properties

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Units</th>
<th>min.</th>
<th>nominal</th>
<th>max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Br, Residual Induction</td>
<td>Gauss</td>
<td>11,700</td>
<td>12,100</td>
<td>12,500</td>
</tr>
<tr>
<td></td>
<td>mT</td>
<td>1170</td>
<td>1210</td>
<td>1250</td>
</tr>
<tr>
<td>HcJ, Coercivity</td>
<td>Oersteds</td>
<td>10,900</td>
<td>11,450</td>
<td>12,000</td>
</tr>
<tr>
<td></td>
<td>kA/m</td>
<td>868</td>
<td>911</td>
<td>955</td>
</tr>
<tr>
<td>HcJ, Intrinsic Coercivity</td>
<td>Oersteds</td>
<td>14,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>kA/m</td>
<td>1,114</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BHmax, Maximum Energy Product</td>
<td>MGoe</td>
<td>33</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>kJ/m³</td>
<td>263</td>
<td>283</td>
<td>302</td>
</tr>
</tbody>
</table>

### Thermal Properties

- Coefficient of Coercivity, α(Hcj) %/ºC: -0.675
- Reversible Temperature Coefficients of Induction, α(Br) %/ºC: -0.120
- Coefficient of Thermal Expansion, ∆L/L per ºC x 10⁶: 7.5, -0.1
- Curie Temperature, Tc ºC: 310
- Thermal Conductivity, W / (m • K): 7.6
- Curie Temperature, Tc ºC: 310
- Flexural Strength, ksi: 41,300
- Density, g/cm³: 7.5
- Hardness, Vickers, Hv: 620
- Electrical Resistivity, ρ, Ω • cm: 180

### Other Properties

- Specific Heat, J / (kg • K): 460
- Breakdown Voltage, V: 14,000 MPa
- Hardness, Vickers, Hv: 620
- Electrical Resistivity, ρ, Ω • cm: 180

### Notes

- The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size.
- 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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1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

Notes:  
(1) Coefficients measured between 20 and 100 ºC  
(2) Between 20 and 200 ºC  
(3) Between 20 and 140 ºC