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>12,800</td>
<td>13,150</td>
<td>13,500</td>
</tr>
<tr>
<td>HcB, Coercivity</td>
<td>mT</td>
<td>1280</td>
<td>1315</td>
<td>1350</td>
</tr>
<tr>
<td>HcJ, Intrinsic Coercivity</td>
<td>kA/m</td>
<td>955</td>
<td>991</td>
<td>1027</td>
</tr>
<tr>
<td>BHmax, Maximum Energy Product</td>
<td>MGoe</td>
<td>40</td>
<td>43</td>
<td>45</td>
</tr>
</tbody>
</table>

### Thermal Properties

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Units</th>
<th>C //</th>
<th>C ⊥</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reversible Temperature Coefficients (1)</td>
<td>%/ºC</td>
<td>-0.120</td>
<td>-0.675</td>
</tr>
<tr>
<td>of Induction, ( \alpha(\text{Br}) )</td>
<td>%/ºC</td>
<td>-0.120</td>
<td></td>
</tr>
<tr>
<td>of Coercivity, ( \alpha(H_{cj}) )</td>
<td>%/ºC</td>
<td>-0.675</td>
<td></td>
</tr>
<tr>
<td>Coefficient of Thermal Expansion (2)</td>
<td>( \Delta L/L \text{per}^\circ \text{C} \times 10^{-6} )</td>
<td>7.5</td>
<td>-0.1</td>
</tr>
<tr>
<td>Thermal Conductivity</td>
<td>W / (m • K)</td>
<td>7.6</td>
<td></td>
</tr>
<tr>
<td>Specific Heat (3)</td>
<td>J / (kg • K)</td>
<td>460</td>
<td></td>
</tr>
<tr>
<td>Curie Temperature, ( T_c )</td>
<td>ºC</td>
<td>310</td>
<td></td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>psi</td>
<td>41,300</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>g/cm³</td>
<td>285</td>
<td></td>
</tr>
<tr>
<td>Hardness, Vickers</td>
<td>Hv</td>
<td>620</td>
<td></td>
</tr>
<tr>
<td>Electrical Resistivity, ( \rho )</td>
<td>( \mu\Omega \text{• cm} )</td>
<td>180</td>
<td></td>
</tr>
</tbody>
</table>

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

### Other Properties

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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. Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.