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>12.500</td>
<td>12,850</td>
<td>13,200</td>
</tr>
<tr>
<td>Hcb, Coercivity</td>
<td>mT</td>
<td>1250</td>
<td>1285</td>
<td>1320</td>
</tr>
<tr>
<td>Hci, Intrinsic Coercivity</td>
<td>kA/m</td>
<td>939</td>
<td>971</td>
<td>1003</td>
</tr>
<tr>
<td>BHmax, Maximum Energy Product</td>
<td>kG</td>
<td>11,800</td>
<td>12,200</td>
<td>12,600</td>
</tr>
</tbody>
</table>

### Thermal Properties

- Coefficient of Thermal Expansion (2) \( \Delta \alpha \) per \(^\circ\)C x 10\(^{-6}\)
- 7.5
- 0.1

### Thermal Conductivity
- W / (m \cdot K)
- 7.6

### Specific Heat (3)
- J / (kg \cdot K)
- 460

### Curie Temperature, \( T_c \)
- °C
- 310

### Flexural Strength
- psi
- 41,300

### Hardness, Vickers
- Hv
- 620

### Electrical Resistivity, \( \rho \)
- \( \mu \Omega \cdot \text{cm} \)
- 7.5

### Other 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></td>
<td>%/°C</td>
<td>%/°C</td>
</tr>
<tr>
<td>of Induction, ( \alpha(Br) )</td>
<td></td>
<td>-0.120</td>
<td></td>
</tr>
<tr>
<td>of Coercivity, ( \alpha(Hcj) )</td>
<td></td>
<td>-0.535</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

1. Coefficients measured between 20 and 150 °C
2. Between 20 and 200 °C
3. Between 20 and 140 °C

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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