PGW Grade Graphite

Product Overview

An economical low ash material with excellent thermal shock resistance, Amsted Graphite Materials’ GRAFSTAR PGW graphite is well suited for the fine machining detail required in molds for casting metal shapes. Grade PGW graphite is a molded version of grade CBY™ graphite with excellent internal structure.

Applications

- Pressure casting molds
- Centrifugal casting molds
- Large diameter susceptors

Sizes

<table>
<thead>
<tr>
<th>Standard Sizes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>44” x 15”</td>
<td>1118 x 381 mm</td>
</tr>
<tr>
<td>44” x 23”</td>
<td>1118 x 584 mm</td>
</tr>
<tr>
<td>50” x 15”</td>
<td>1270 x 381 mm</td>
</tr>
<tr>
<td>50” x 23”</td>
<td>1270 x 584 mm</td>
</tr>
<tr>
<td>52” x 23”</td>
<td>1321 x 584 mm</td>
</tr>
</tbody>
</table>

Typical Properties at Room Temperature*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Unit</th>
<th>AG</th>
<th>Unit</th>
<th>AG</th>
<th>Unit</th>
<th>AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>lbs/ft³</td>
<td>102</td>
<td>g/cm³</td>
<td>1.63</td>
<td>g/cm³</td>
<td>1.63</td>
</tr>
<tr>
<td>Maximum Particle Size</td>
<td>inches</td>
<td>0.03</td>
<td>mm</td>
<td>0.76</td>
<td>mm</td>
<td>0.76</td>
</tr>
<tr>
<td>Specific Resistance</td>
<td>10⁻⁴Ωin</td>
<td>3.66</td>
<td>μΩm</td>
<td>9.3</td>
<td>μΩm</td>
<td>9.3</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>psi</td>
<td>1960</td>
<td>kg/cm²</td>
<td>137</td>
<td>MPa</td>
<td>14</td>
</tr>
<tr>
<td>Young’s Modulus</td>
<td>10⁶ psi</td>
<td>1.0</td>
<td>kg/mm²</td>
<td>701</td>
<td>GPa</td>
<td>6.9</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>psi</td>
<td>1255</td>
<td>kg/cm²</td>
<td>88</td>
<td>MPa</td>
<td>9</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>psi</td>
<td>4960</td>
<td>kg/cm²</td>
<td>348</td>
<td>MPa</td>
<td>34</td>
</tr>
<tr>
<td>Permeability</td>
<td>Darcy</td>
<td>0.5</td>
<td>Darcy</td>
<td>0.5</td>
<td>Darcy</td>
<td>0.5</td>
</tr>
<tr>
<td>Hardness</td>
<td>Rockwell “R”</td>
<td>32</td>
<td>Rockwell “R”</td>
<td>32</td>
<td>Rockwell “R”</td>
<td>32</td>
</tr>
<tr>
<td>C.T.E. (RT to 100 °C)</td>
<td>10⁻⁶/°F</td>
<td>2.0</td>
<td>10⁻⁶/°K</td>
<td>3.6</td>
<td>10⁻⁶/°K</td>
<td>3.6</td>
</tr>
<tr>
<td>Thermal Conductivity</td>
<td>BTU-ft/hr ft² °F</td>
<td>75</td>
<td>W/mK</td>
<td>130</td>
<td>W/mK</td>
<td>130</td>
</tr>
<tr>
<td>Ash Content</td>
<td>%</td>
<td>0.12</td>
<td>%</td>
<td>0.12</td>
<td>%</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Notes:

* Properties listed are typical and cannot be used as accept/reject specifications.