Saint-Gobain 7930 Levigated Alumina is 98% pure high-quality calcined alumina that is classified to achieve a tightly sized distribution. The single-crystal alumina platelets have an average size of approximately five microns. This is a cost-effective product for lapping, polishing, as a filler, and other applications. Levigated Alumina’s main benefit is its rare combination of thermal conductivity and electrical resistivity.

### PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystal Form</td>
<td>Monocrystalline Alpha Alumina</td>
</tr>
<tr>
<td>Shape</td>
<td>Hexagonal Platelets</td>
</tr>
<tr>
<td>Hardness</td>
<td>Knoop — 2000</td>
</tr>
<tr>
<td>pH</td>
<td>9.0-10.5</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>3.95 gm/cc</td>
</tr>
</tbody>
</table>

### CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Compound</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al₂O₃</td>
<td>98.70% min.</td>
</tr>
<tr>
<td>SiO₂</td>
<td>0.06% max.</td>
</tr>
<tr>
<td>Fe₂O₃</td>
<td>0.03% max.</td>
</tr>
<tr>
<td>Na₂O</td>
<td>1.00% max.</td>
</tr>
<tr>
<td>TiO₂</td>
<td>0.02% max.</td>
</tr>
<tr>
<td>CaO</td>
<td>0.07% max.</td>
</tr>
<tr>
<td>MgO</td>
<td>0.05% max.</td>
</tr>
</tbody>
</table>

Levigated Alumina is recommended as a direct substitute for other electrically resistant white fillers where high hardness and/or high thermal conductivity is desired. A very important feature of all aluminas is their inherent combination of desirable electrical and thermal properties. Levigated Alumina adds additional value by its tight sizing and strict coarse particle control. This assures a consistent product with no coarse particles to excessively wear your processing equipment. The charts on the back show comparisons between alumina and other electrically resistant white fillers.
Levigated Alumina

**THERMAL CONDUCTIVITY OF SELECTED ELECTRICALLY RESISTANT WHITE FILLERS**

- Alumina: 0.070 cal/sec/cm²/C(100°C)
- Rutile: 0.016
- Mullite: 0.014
- Marble: 0.008
- Talc: 0.006
- Zirconia: 0.005
- Quartz: 0.004

**ELECTRICAL RESISTIVITY OF SELECTED WHITE FILLERS**

- Zirconia: 1E+14 k(ohm-cm) @ room temp
- Talc: 1E+13
- Quartz: 1E+12
- Mullite: 1E+11
- Alumina: 1E+10
- Rutile: 7E+9

**HARDNESS OF SELECTED ELECTRICALLY RESISTANT WHITE FILLERS**

- Alumina: 9
- Mullite: 7.5
- Quartz: 7
- Zirconia: 6.5
- Rutile: 6.5
- Marble: 3
- Talc: 1

**LEVIGATED PRODUCT SIZING**

<table>
<thead>
<tr>
<th>d₃₁₀₅</th>
<th>d₅₀</th>
<th>d₉₄ min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.0</td>
<td>3.2 - 4.8</td>
<td>1.5</td>
</tr>
</tbody>
</table>

By Coulter Multisizer

Sources:

Saint-Gobain Surface Conditioning

1 New Bond Street, Box #15137, Worcester, MA 01615-0137
Tel: 508-795-5000
	surfaceconditioning.saint-gobain.com

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