Niobium Nb
Sputtering Targets

Applications
- Optical films
  - Filters
  - Fiber optics
- Architectural glass
- Wear coatings

Features
- High purity
- Grain refinement

Manufacturing Process
- Refining
  - Multiple step electron beam melting
- Rolled and annealed
- Cleaning and final packaging
  - Cleaned for use in vacuum
  - Protection from environmental contaminants
  - Protection during shipment

Options
- 99.95% minimum purity (excluding Ta)
- Planar circular targets up to 20” (500 mm) diameter
- Planar tiles up to 70” (1800 mm) length and width for larger target configurations
- Smaller sizes also available for R&D applications
- Sputtering target bonding service

www.lesker.com
Specifications

Typical Analysis - 99.95% (3N5) Purity

Metallic Impurities, ppm by weight

<table>
<thead>
<tr>
<th>Si</th>
<th>Cl</th>
<th>Fe</th>
<th>Cu</th>
<th>Pd</th>
<th>Ag</th>
<th>Hf</th>
<th>Ta</th>
<th>W</th>
<th>Zr</th>
<th>Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5</td>
<td>&lt;5</td>
<td>&lt;5</td>
<td>&lt;5</td>
<td>&lt;5</td>
<td>&lt;10</td>
<td>&lt;5</td>
<td>&lt;450</td>
<td>&lt;50</td>
<td>&lt;5</td>
<td>&lt;5</td>
</tr>
</tbody>
</table>

Non-Metallic Impurities, ppm by weight

<table>
<thead>
<tr>
<th>C</th>
<th>H</th>
<th>O</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;50</td>
<td>&lt;10</td>
<td>&lt;100</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

Theoretical Density 8.57 g/cm³

Average Grain Size <50 µm

Electrical Resistivity 152 nΩ-m

Thermal Conductivity 53.7 W/m-K

Melting Point 2468°C

Appearance Grey, metallic

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