Electrolytic Nickel Squares (1x1)

Vale™ electrolytic nickel is the world’s leading brand of electroplating nickel. Nickel Squares are cut from full size cathodes produced by electrolytic refining at Vale’s Thompson Nickel Refinery in Manitoba, Canada.

The controlled and consistent quality of the Thompson refining process have established Vale™ Electrolytic Nickel Squares as an industry standard for general purpose electroplating:

- High purity
- Thickest cathode available (~15 mm)
- Smooth, shiny and defect-free surface
- Produces minimal metallic residues upon dissolution
- Dissolves at 100% anode efficiency in common nickel plating solutions (containing chlorides)
- Added directly to titanium anode baskets
- Proven and trusted by the world’s leading electroplaters

Electrolytic Nickel Squares are produced in compliance with the following ISO standards: ISO 9001:2008.

For further information about our products, please visit our website (www.vale.com) or contact a regional sales representative.

Typical Specifications

Form
- Square-shaped pieces of nickel
- Dimensions: 25 mm x 25 mm (1" x 1")
- Thickness: approximately 15 mm
  *typically 6-8 wt% may be oversized

Packing Density
Approximately 4.6 g/cm³ of basket capacity

Packaging
- 10 kg bags, 5 bags per box, 20 boxes per pallet
  (1,000 kg net weight)
- 250 kg steel drums, 4 drums per pallet

Chemical Analysis (wt %)

<table>
<thead>
<tr>
<th>Element</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni*</td>
<td>&gt;99.91</td>
</tr>
<tr>
<td>Co</td>
<td>&lt;0.06</td>
</tr>
<tr>
<td>Cu</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>C</td>
<td>&lt;0.0035</td>
</tr>
<tr>
<td>Fe</td>
<td>&lt;0.0002</td>
</tr>
<tr>
<td>S</td>
<td>&lt;0.0002</td>
</tr>
<tr>
<td>As</td>
<td>&lt;0.0013</td>
</tr>
<tr>
<td>Pb</td>
<td>&lt;0.0003</td>
</tr>
<tr>
<td>Zn</td>
<td>&lt;0.0002</td>
</tr>
</tbody>
</table>

*Nickel determined by difference