Nickel Pellets (Canada)

Nickel Pellets are a high purity form of nickel widely used in melting applications. Nickel Pellets are produced by a carbonyl refining process at the Copper Cliff Nickel Refinery in Sudbury, Canada.

The controlled and consistent purity of Nickel Pellets and the advantages associated with its distinctive shape make this product an industry standard for the production of high-nickel alloys and iron-base alloys:

• Carbonyl refining produces one of the purest forms of nickel available, allowing for its use in the most demanding applications in the aerospace, electronic and nuclear industries
• High nickel content and low impurity levels allow for its addition at any stage of the alloy-making process
• Distinctive shape results in high packing density, easy flow and permits semi- and fully-automated handling operations, such as transfer from bulk storage to weighing and furnace charging stations

Nickel Pellets 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.

Form
• Spherical
• Diameter: <20 mm
• Bulk density: approximately 5.4 - 5.8 g/cm³

Packaging
• 250 kg drums, 4 drums per pallet
• 2 tonne bags
• Bulk shipments (inquire for availability)

Typical Analysis (wt %)

<table>
<thead>
<tr>
<th>Element</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni*</td>
<td>≥99.98</td>
</tr>
<tr>
<td>C</td>
<td>≤0.007</td>
</tr>
<tr>
<td>O</td>
<td>≤0.007</td>
</tr>
<tr>
<td>Fe</td>
<td>≤0.001</td>
</tr>
<tr>
<td>Ca, Cu, N, Na, S, Si</td>
<td>≤0.0005**</td>
</tr>
<tr>
<td>Al, As, Bi, Cd, Co, Mn, Mg, P, Pb, Sn, Sb, Zn</td>
<td>≤0.00005**</td>
</tr>
</tbody>
</table>

* Nickel determined by difference.
** For each element listed.