Nickel S-Pellets™

Nickel S-Pellets™ are a high purity form of sulphur-activated nickel widely used for electroplating with titanium anode baskets. S-Pellets™ are produced by a unique carbonyl gas refining process at the Clydach Nickel Refinery in the UK.

The controlled and consistent purity of S-Pellets™ and the advantages associated with its distinctive shape and sulphur activation make this product attractive for high-end plating (e.g. high-speed engineering, electronics, electroforming) with titanium anode baskets:

• Carbonyl refining produces the purest form of nickel available
• Sulfur activation promotes uniform dissolution and low operating voltage, even in chloride-free plating baths
• Unique shape prevents the formation of bridges and voids in the basket
• Settles uniformly in basket, ensuring uniform current density and high quality deposits
• Flows easily into regular and shaped baskets with standard mesh sizes
• Ideal for use with automated basket loading devices
• Safe to handle (no sharp edges)
• Dissolves at 100% anode efficiency in common nickel plating solutions – with or without chlorides
• Dissolution produces minimal metallic residues

The sulphur in this product does not enter the plating solution; it forms an insoluble nickel sulphide residue, which is 100% contained using cloth anode bags, where it acts to remove unwanted copper impurities.

Typical Specifications

Form
• Spherical pieces of nickel
• Diameter: approximately 6 - 14 mm

Packing Density
Approximately 5.4 g/cm³ of basket capacity

Packaging
• 10 kg bags, 5 bags per box, 20 boxes per pallet (1,000 kg net weight)
• 1 tonne bulk bags

Chemical Analysis (wt %)

<table>
<thead>
<tr>
<th>Element</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni*</td>
<td>&gt;99.97</td>
</tr>
<tr>
<td>Co</td>
<td>&lt;0.00002</td>
</tr>
<tr>
<td>Cu</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>C</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>Fe</td>
<td>&lt;0.004</td>
</tr>
<tr>
<td>S</td>
<td>~0.022-0.030</td>
</tr>
<tr>
<td>Pb</td>
<td>&lt;0.00001</td>
</tr>
<tr>
<td>Zn</td>
<td>&lt;0.00002</td>
</tr>
</tbody>
</table>

*Nickel determined by difference.


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

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