T255™ Nickel Powder

T255™ is a high purity nickel powder with a fine, three-dimensional filamentary ("chain-like") structure. T255™ is produced by a unique carbonyl gas refining process at the Clydach Nickel Refinery in the UK.

T255™ is recognized as an industry standard feed for the production of sintered rechargeable battery electrodes:

• Sinters readily to form a conductive, open porosity network
• Uniform size distribution and density results in controlled porosity in sintered electrodes and other porous structures
• Porosity-strength relationship of sintered T255™ is well understood, enabling tailoring of porous structure

T255™ is widely used as a conductive additive in:

• Batteries and fuel cells
• Pigments in coatings, especially for electromagnetic interference (EMI) shielding applications
• Polymers for electronic applications to provide electrical conductivity

T255™ is also used in powder metallurgical applications, as the filamentary structure can be broken down into fine primary particles.


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

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Product Description

**Form**

- Fisher sub-sieve size: 2.2 - 2.6 µm
- Bulk density: 0.50 - 0.58 g/cm³
- Sieve test: ≤0.8 wt% +100#

**Packaging**

- 75 kg steel drums, 6 or 12 drums per pallet

**Typical Analysis (wt %)**

<table>
<thead>
<tr>
<th>Element</th>
<th>Typical</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni*</td>
<td>&gt;99.7</td>
<td>--</td>
</tr>
<tr>
<td>Co</td>
<td>&lt;0.00005</td>
<td>--</td>
</tr>
<tr>
<td>C</td>
<td>&lt;0.2000</td>
<td>0.25</td>
</tr>
<tr>
<td>Fe</td>
<td>&lt;0.0030</td>
<td>0.01</td>
</tr>
<tr>
<td>S</td>
<td>&lt;0.0002</td>
<td>0.001</td>
</tr>
<tr>
<td>O</td>
<td>&lt;0.0750</td>
<td>0.15</td>
</tr>
<tr>
<td>N</td>
<td>&lt;0.0100</td>
<td>--</td>
</tr>
</tbody>
</table>

*Nickel determined by difference.

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High resolution SEM image of T255™ nickel powder