



## Nickel Plating Chips™ (UK)

Nickel Plating Chips™ are a high purity form of nickel specifically designed for electroplating with titanium anode baskets. Chips™ are produced by a unique carbonyl gas refining process at the Clydach Nickel Refinery in the UK.

The controlled and consistent purity of Chips™ and the advantages associated with its distinctive shape make this product attractive for general purpose plating with titanium anode baskets:

- Carbonyl refining produces the purest form of nickel available
- 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 baskets with standard mesh sizes
- Safe to handle (no sharp edges)
- Dissolves at 100% anode efficiency in common nickel plating solutions (containing chlorides)
- Proven and trusted by the world's leading electroplaters

Dissolution produces a small amount of metallic residue which can be contained using cloth anode bags.

Chips™ are produced in compliance with the following standards: ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007.

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

### Typical Specifications

#### Form

- Disc-shaped pieces of nickel
- Diameter: approximately 18 - 22 mm
- Thickness: approximately 4 - 5 mm

#### Packing Density

Approximately 5.0 g/cm<sup>3</sup> of basket capacity

#### Packaging

- 10 kg bags, 5 bags per box, 20 boxes per pallet (1,000 kg net weight)

#### Chemical Analysis (wt %)

Ni*	>99.98
Co	<0.00002
Cu	<0.0001
C	<0.007
Fe	<0.004
S	<0.0002
Pb	<0.000003
Zn	<0.00002

\*Nickel determined by difference.



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