**Manufacturing**

TiAl RNT650 Ingots are manufactured by single, double or triple VAR melting with consumable electrodes. Consumable electrodes are made up of compacted Ti sponge, Aluminium and master alloys.

**Applications**

RNT650 Ingots are used as feed stock materials for further casting processes to γ-TiAl components.

**Chemical Composition**

Ti -33.5Al -4.8Nb -1Cr -0.2Si (wt.-%)

Impurities (wt.-ppm)

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>N</th>
<th>O</th>
<th>C</th>
<th>Fe</th>
<th>Ni</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 50</td>
<td>&lt; 200</td>
<td>&lt; 800</td>
<td>&lt; 200</td>
<td>&lt; 1000</td>
<td>&lt; 500</td>
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</tbody>
</table>

**Forms of Delivery**

Cylindrical ingots of 140 mm – 280 mm diameter and up to 1.200 mm length.
Surface conditions as-cast or mechanically machined.
Other sizes and individual customer specifications on request.

**Physical Properties**

- **Density:** 3.95 g/cm³
- **Hardness:** 285 HV10
- **Youngs Modulus (RT):** 155 GPa
  - (800 °C): 102 GPa

**Microstructure consists of:**
- $\alpha_2$/γ lamellar colonies
- globular γ-TiAl grains
- globular $\alpha_2$-Ti$_3$Al grains

$T_{\text{melt}}$: ca. 1605 °C