Titanium Aluminides

_γ-TiAl TNB-V2 Remelt Stocks_

Manufacturing
TiAl TNB-V2 forging stocks are manufactured by VAR skull melting and centrifugal casting in permanent molds based on a single or double VAR melted consumable electrode. Consumable electrodes (ingots) are made up of compacted Ti sponge, Aluminum and master alloys.

Applications
TiAl TNB-V2 remelt stocks are used as feed stock materials for subsequent investment casting operations in order to manufacture net shape or oversized parts. The alloy exhibits an outstanding high temperature capability particularly with regard to creep and oxidation properties.

Chemical Composition
Ti Al Nb C
bal. 28.9 17.7 0.057
+- 0.8 +- 1.0 +- 0.02

Impurities (wt.-ppm)
H N O C Fe Ni TOE
< 50 < 200 < 800 < 200 < 1000 < 500 < 1000

Forms of Delivery
Cylindrical slugs of 30 mm – 70 mm diameter and up to 350 mm length. Surface conditions as-cast. Other sizes and individual customer specifications on request.

Physical Properties
Density: 4.2 g/cm³
Hardness: 390 HV10
Youngs Modulus (RT): 160 GPa
(700 °C): 140 GPa

Microstructure consists of:
- extended _α’_ / _γ_ lamellar colonies
- small amounts of
  - globular _β/_ _B2_ and
  - globular _γ_-TiAl grains

_T_ eutectoid: 1210 °C
_T_ _α_-transus: 1330 °C

Working Temp.: up to 900 °C

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Technical Contact: Dr. Volker Güther
Phone: +49 911 9315 446
Fax: +49 911 9315 1446
E-mail: volker.guether@gfe.com

Commercial Contact: Markus Löhr
Phone: +49 911 9315 476
Fax: +49 911 9315 1476
E-mail: markus.loehr@gfe.com

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AMG TITANIUM ALLOYS & COATINGS
GfE Metalle und Materialien GmbH
Höfener Str. 45, 90431 Nürnberg, Germany
GfE Fremat GmbH
Gewerbegebiet Süd 20, 09618 Brand-Erbisdorf, Germany
www.gfe.com