



Perryman company

625 Technology Dr., Coal Center, PA 15423 USA

SHIP TO Phone: 724-746-9390 Fax: 724-746-9392

Perryman Company
213 Vandale Drive
Houston, PA 15342

CERTIFICATE OF TEST

For TITANIUM INGOT

WORK ORDER
024943

HEAT NUMBER
PVD4838

QUANTITY PCS
12240 Lbs 1

DESCRIPTION

FORM: Ingot, Grade: Ti6Al7Nb, Size: 30

SPECIFICATION CAPABILITY

P-134 Rev 2

Chemistry (WT%) Top

O	N	C	Fe	Al	Nb	H	Ta
.18	.004	.008	.20	5.86	7.00	.0004	.005

Chemistry (WT%) Bottom

O	N	C	Fe	Al	Nb	H	Ta
.19	.004	.008	.20	6.00	7.08	.0003	.005

Comments

Melting Process:
EBCHR-VAR

Calculated Beta Transus T/B:
1829F/1837F

Calculated Beta Transus T/B C:
998C/1003C

Residual Elements, each < .10%
Residual Elements, total < .30%
Balance Titanium.

Melted in the United States of America.

The material is free of radioactive and mercury contamination.

Oxygen/Nitrogen tested in accordance with ASTM E1409.

Carbon tested in accordance with ASTM E1941.

Hydrogen tested in accordance with ASTM E1447.

Metallics Tested By XRF in accordance with ASTM E539.

Elements not required by specification are included in Others(each) and Others(Total)



Materials Testing Laboratory

This material conforms to the chemistry and quality system requirements of the specifications referenced. The results relate only to the lot tested and the results are contained in the records of Perryman Company.

The certificate of test cannot be reproduced except in full without the written approval of the laboratory, and the recording of false, fictitious, or fraudulent statements or entries on this document may be punished as a felony under federal law.

Terrance J. Marth
Laboratory Supervisor



Perryman company
 213 Vandale Drive Houston, PA 15342 USA
 phone: 724-746-9390 fax: 724-746-9392

Certified Test Report

Customer: **Industrial Strength Corporation**
 6115 Corte del Cedro
 Carlsbad, CA 92011

Heat No: **PVD4838**
 Melting Source: **Perryman Company, USA**
 Work Order No: **140435**
 Date: **11/08/2019**
 Quantity: **254** Lbs

Customer Order No: **20190306MK1**
 Specification: **ASTM F1295-16**

Product: **Ti 6Al-7Nb .28075/.28175" Dia. CG Bar X 12' R/L**

Condition: **Annealed 1300 F 2 Hours**

Chemistry Wt % **ASTM E 1447:** **ASTM E 407:** **H: .0005**
Metallographic Examination: **ASTM E 407:** **ASTM E 407:** **No alpha case 500x**
Etchant: PER1 & PER2 **Microstructure - Equiax alpha-beta** **Surface Contamination -**

Mechanical Properties
ASTM E8/EN 2002-001:2005E
 Tensile Strength ksi **147.0**
 .2% Yield Strength ksi **132.0**
 Elongation 4D % **19**
 Reduction of Area % **47**
 As Shipped

Ultrasonic inspection to AMS 2631 rev E Class A1 - Passed

This is to certify that all test results conform to the specifications listed above and that all tests required were performed by Perryman Company. The material did not come in contact with Mercury or radioactive contamination at Perryman. Attached is a copy of the Ingot Chemistry. All testing performed at room temperature unless otherwise noted. The test results relate only to the lots tested and are contained in the records of Perryman Company. The Certified Test Report cannot be reproduced except in full, without written approval. Made in USA.

Earl W. Julius 11/8/2019

Earl W. Julius
 Certification Technician



Materials Testing Laboratory