



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

Certified Test Report

Customer:

Heat No: PVD4433
Melting Source: Perryman Company, USA
Work Order No: 156082

Date: 6/9/2021

Quantity: 361

Lbs

Customer Order No:

Product: TI 6Al-4V .624/.526" Dia. Solution Treated and Aged Bar X 12' R/L

Specification: AMS 4965M, AMS 6930F, AMS T-9047A,
MIL-T-9047G Comp T16Al-4V Cond STA AM 2 Cng Not 1,
EN 10204 3.1 (2004), AS6279B, MIL-H-81200B, AMS-H-81200-

Condition:

Solution treated 1750 F 1 hr WQ + 1000 F 4 hr AC

Chemistry Wt %

ASTM E 1447:

Post processing Hydrogen Determination

H: .0020

Metallographic Examination:

ASTM E407:

Microstructure - Equiax alpha-beta
Macrostructure - Acceptable per AMS 2643F Etchant PER 6

ASTM E 407: Surface Contamination -

No alpha case 500x

Etchant: PER1 & PER2

Mechanical Properties

ASTM E8/EN 2002-001:2005E

Condition

As Shipped

Tensile Strength	.2% Yield Strength	Elongation 4D	Reduction of Area
ksi	ksi	%	%
181.7	166.1	15	45
181.2	166.1	13	47
179.4	163.5	14	51
180.4	165.2	15	53

Perryman has complied with all producer requirements of AS6279

Immersion ultrasonic inspection to AMS-STD-2154D type 1 Class A/AA and MIL-STD-2154 type 1 class A/AA - Passed

Immersion ultrasonic inspection to AMS 2631 rev E Class AA/At - Passed

All Chemical and Mechanical Testing performed at a Nadcap accredited laboratory

Eddy current inspection - Passed

This is to certify that all test results conform to the specifications listed above and that all tests required, except tensiles by PES, 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.

Zachary S. Duggan
Laboratory Manager

6/9/2021



Materials Testing Laboratory

6/15/21



Perryman company

625 Technology Dr., Coal Center, PA 15423 USA

SHIP phone: 724-746-9390 Fax: 724-746-9392

Perryman Company
213 Vandale Drive
Houston, PA 15342

CERTIFICATE OF TEST For TITANIUM INGOT

WORK ORDER
022716

HEAT NUMBER
PVD4433

QUANTITY
12365 Lbs

PCS
1

DESCRIPTION

FORM: Ingot, Grade: Ti6Al4V STA, Size: 30

SPECIFICATION CAPABILITY

P-145 Rev 1

Chemistry (WT%) Top

O	N	C	Fe	Al	V	Si	Cu	Pd	Y	H	B	Ru
.18	.023	.041	.19	6.23	4.06	.017	.002	<.002	<.001	.0004	<.001	<.001

Chemistry (WT%) Bottom

O	N	C	Fe	Al	V	Si	Cu	Pd	Y	H	B	Ru
.19	.025	.040	.18	6.21	4.00	.017	.002	<.002	<.001	.0004	<.001	<.001

Comments

Melting Process:

EECHR-VAR

Calculated Beta Transus T/B:

1847F/1853F

Calculated Beta Transus T/B C:

1008C/1012C

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.

B, Y, Pd, Ru tested in accordance with ASTM E2371.

Metallics Tested By XRF in accordance with ASTM E539.

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

6/15/21

Nadcap

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.

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Terrance J. Martin
Laboratory Supervisor

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