



Allegheny Technologies

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CAST PRODUCT CERTIFICATION

Date: 4/14/08
 Customer: MONTEREY BAY RESEARCH INSTITUTE
 Purchase Order No.: 0712357 REV 1 ITEM 1
 Sales Order No.: 137448
 Description: 6Al-4V Titanium - HEMISPHERE - Casting
 Pattern No.: P-200381-07-05
 Part Number: P-200381-07
 Quantity: ONE
 Specifications: ASTM B367-06 Gr C5, OMC 105 Rev. K Gr C5
 Heat No. (FPN): C000626
 Casting ID No.: CA070736-1P1

Element	Spec. Min.	Spec. Max.	RESULTS
Al	5.50	6.75	6.00
C	0	0.10	0.03
Fe	0	0.40	0.14
H	0	0.015	0.001
N	0	0.05	0.008
O	0	0.25	0.20
V	3.5	4.5	3.9
Others each	0	0.10	<0.10
Total residuals	0	0.40	<0.40

Tensile Test: As Cast Test Plug

Test	Method	Gage	Units	Spec. Min.	Results
Ultimate Tensile Strength:	ASTM E8		Ksi	130	144.8
Yield Strength, 2% Offset:	ASTM E8		Ksi	120	128.4
Elongation:	ASTM E8	1"	Pct	6	10

Hardness Report:

Sample	Units	Spec. Max.	Results (Avg. of 3)
Hardness:	HBW	365	321

Approved By: Delora A. Tatum Sr Certification Specialist ves 04/14/08

This product has been manufactured, sampled, tested and inspected in accordance with the purchase order/contract and specifications designated hereon and meets all specifications and contract requirements unless otherwise stated above. This material is certified to be free of any mercury contamination or radioactive material.

THIS CERTIFICATION SHALL NOT BE REPRODUCED EXCEPT IN FULL.

"Note: The recording of false, fictitious, or fraudulent statements or entries on this document may be punishable as a felony under Federal Statute."

Material melted and manufactured in the United States. Produced at ATI Wah Chang.

"Wah Chang Is A Registered/Certified ISO 9001:2000, AS 9100, and PED 97/23/EC Company."