

TEST REPORT

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Purchase Order No. : Verbal Wade **Report No.** : WAR063-09-07-23196-1
Date Received : 7/8/2009 **Report Date** : 7/14/2009
Report Delivered Via: wardindustries@gmail.com
Attachments : None

Work Requested: Perform hardness measurement, comprehensive chemical analysis and testing in tension on one (1) sample per AMS4898.

SCRS ID	Customer ID:	Description	
1	HT#8819690-784B	1" x 4" x 9"	6Q2 Titanium Plate

GDS Analysis Results

Element	1	Specification	Method
Al	5.77	5.25 - 6.25	ISO1
Sn	1.88	1.75 - 2.25	ISO1
Zr	2.00	1.75 - 2.25	ISO1
Mo	2.00	1.75 - 2.25	ISO1
Cr	2.06	1.75 - 2.25	ISO1
Si	0.13	0.10 - 0.20	ISO1
Fe	0.11	0.15 Maximum	ISO1
O	0.11	0.15 Maximum	L
C	<0.01	0.08 Maximum	L
N	0.009	0.05 Maximum	L

Method(s)

- ISO1 = Bulk chemical analysis by Glow Discharge - Optical Emission Spectrometry (GD-OES) in general accordance with ISO-14707:2000E First edition (2000-08-15)
- L = ASTM E1019-03 Determination of Carbon, Sulfur, Nitrogen, and Oxygen in Steel and in Iron, Nickel, and Cobalt Alloys.

Respectfully submitted



Dennis Galloway (248) 960-4900 Ext: 456

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Rockwell Hardness Results

HRC					
SCRS ID	Reading 1	Reading 2	Reading 3	Average	Method
1	46	45	46	46	E18

Method(s)

- E18 = ASTM E18-08a - Standard Test Methods for Rockwell Hardness of Metallic Materials

Mechanical Testing Results

SCRS ID	UTS (ksi)	YS (0.2% Offset) (ksi)	Elongation (% in 4D)	Gauge Length (in)	Ra (%)	Modulus (Msi)
1 Long	173	154	5	2.0	8.8	17.8
1 Trans	172	154	6	1.4	10	n/a
Methods	E8	E8	MAN	E8	MAN	E111

Method(s)

- E8 = In General Accordance with ASTM E8/E8M-08 Standard Test Methods for Tension Testing of Metallic Materials
- MAN = Elongation Measured Manually

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