Irving Mill Sales
1701 West Northwest HWY
GRAPEVINE TX 76051
USA
Tel:817 329 5035 Fax:817 329 5036
Shipping Plant: Tustin Service Center

Attachment to A Product Certification

Customer P.O. Number/Date
38943 rel# 1/Jan 19, 2007
TIMET Sales Order Number/Date
207014/Jan 19, 2007
TIMET Packing List Number/Scheduled Ship Date
80294115/Jan 23, 2007

Sold-to Address

Ship-to Address

TIMET Item # / Customer Item #	Material # / Customer Material #	Material Description	Quantity	Weight
000010	125068	*TIMETAL*® 6-4 Titanium Aero Sheet		

Specifications : MIL-T-9046J AB-1 COND.A
Batch Number : H7651--W04 15.000 PC 128.000 LB
Batch Dimensions : 0.020" X 36.000" X 66.000"
Batch Number of Pieces : 15.000
Country of Origin : USA
Heat Number : H7651
Test Number : S1880
Batch Number : H6938--W06 7.000 PC 51.000 LB
Batch Dimensions : 0.020" X 36.000" X 66.000"
Batch Number of Pieces : 7.000
Country of Origin : USA
Heat Number : H6938
Test Number : S1543

B-Additional customer req
for Gulfstream 1159B51416-187, 1159B51417-71/-73
QA QAS101C - 1(acceptance), 2(T/R), 3(cert), 14(right of access), 16(QA system), 18(stop work), 23(traceability), 24(BAA)

Results are from TIMET Quality Control Records on file. The undersigned has verified that the information on the attached mill product certification meets the requirements of the above referenced order.

Authorized TIMET Signature _____ Date 1/24/2007

TMS Titanium Sample Cert

Titanium Metals Corporation
100 Titanium Way, Toronto, OH 43964
Telephone (740) 537-5694, Fax (740) 537-5653

Approved Certificate

CERTIFICATE ID	CUSTOMER	PURCHASE ORDER
H6938--E01	TSC-WEST, Tustin, CA	20032829
HEAT NUMBER	**GRADE**	**PRODUCT DESCRIPTION**
H6938	TIMETAL®6-4	0.020" SHEET

SPECIFICATIONS

AMS 4911_J; AMS-T-9046_A AB-1; DMS 1592_F

DELIVERY CONDITION

Annealed

CHEMICAL ANALYSIS

(Weight Percent)

	C	Fe	N	Al	V	O
H6938-TOP	0.018	0.17	0.008	6.23	3.94	0.19
H6938-BOT	0.018	0.17	0.010	6.14	3.91	0.19

	H2 (ppm)	LOCATION	METHOD
H6938--E01-S1543-47	129	SHEET	FUSION
H6938--E01-S1543-52	101	SHEET	FUSION

Yttrium less than 10 ppm.
Residual elements each less than 0.10% maximum, 0.40% maximum total.
Balance titanium.
Chemical results notated TOP or BOT are ingot analysis. All others designate product chemistry results.

MECHANICAL PROPERTIES

Mill Annealed 60 Minutes @ 1400F AC

Room Temperature Tensile Results (YS @ .2% Offset)

	TENSILE DIR	TS KSI	YS KSI	4D, % EL
H6938--E01-S1543-47	L	151	139	14
H6938--E01-S1543-47	T	155	145	12
H6938--E01-S1543-52	L	151	139	12
H6938--E01-S1543-52	T	153	142	12

Periodic Test: Lab Annealed 20 Minutes @ 1325F AC

Room Temperature Tensile Results (YS @ .2% Offset)

	TENSILE DIR	TS KSI	YS KSI	4D, % EL
H6969--D01-S1551-100	T	150	140	12

MACROSTRUCTURE/MICROSTRUCTURE

L-Micro Spec.: AMS 4911_J

	GRAIN SIZE
H6938--E01-S1543-47	9.5
H6938--E01-S1543-52	9.5

REGISTERED ISO 9001:2000 & AS9100

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The intentional recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

Accredited Nadcap Materials Testing Laboratory NDT & LAB

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COMPLIANCE STATEMENTS

1. Surface free from contamination and product conforms to the other technical requirements of the referenced specifications.
2. Microstructure examined and acceptable to order specifications.
3. Material is free of alpha case and other harmful contaminants.
4. 105 degree bend test performed and acceptable. Bend factor R/T 4.5 examined at 20X.
5. Material melted by TIMET, 8000 West Lake Mead Parkway, Henderson, Nevada, 89015, USA.
6. Material melted using the multiple VAR process.

Results are from TIMET Quality Control records on file
Cert Master used: BS_131
Sales Order # : 157022

Date : 13-OCT-2005
Time : 11:06

Chris Cadledge TIMET 132
Authorized Signature

AP 10/27/05
TIMET 109

REGISTERED ISO 9001:2000 & AS9100

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