

**Wesco Aircraft®****Wesco Aircraft Hardware Corp.**

27727 Avenue Scott; Valencia, CA 91355

PH: 661 / 775-7200 FAX: /

Pack Slip

Pack Slip #	Date	Page #
10688851	9/27/2016	2 of 6
Sales Order #	Ship To #	
10802652 SO	617872 ()	
Customer PO#		
CPE5571		

Item #	Quantities			Part Number / Description	Certifications	Promise Date
	Shipped	Backorder	U/M			

US Harmonized Schedule Number: 8108.90.30.60 TITANIUM HILOK BOLT

4	210	0	EA	EN6114K4X5	Cert-Mfr's C of C	9/23/2016
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PIN,100CSK,1STOS,HK1/CT/WHT TI

Lot #	Manufacturer's Lot #:	Manufacturer Name	Lot Qty
	31686808 U832889	Air Industries	210



Export Classification. EAR 99

Country Of Origin: US

US Harmonized Schedule Number: 8108.90.30.60 TITANIUM HILOK BOLT

5	635	0	EA	EN6114K4X6	Cert-Mfr's C of C	9/23/2016
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PIN,100CSK,1STOS,HK1/CT/WHT TI

Lot #	Manufacturer's Lot #:	Manufacturer Name	Lot Qty
	31680812 U833148	Air Industries	635



Export Classification. EAR 99

Country Of Origin: US

US Harmonized Schedule Number: 8108.90.30.60 TITANIUM HILOK BOLT

6	354	0	EA	EN6114K4X8	Cert-Mfr's C of C	9/23/2016
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PIN,100CSK,1STOS,HK1/CT/WHT TI

Lot #	Manufacturer's Lot #:	Manufacturer Name	Lot Qty
	31687885 U832890	Air Industries	354



Export Classification. EAR 99

Country Of Origin: US

US Harmonized Schedule Number: 8108.90.30.60 TITANIUM HILOK BOLT

7	158	0	EA	EN6114K4X9	Cert-Mfr's C of C	9/23/2016
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PIN,100CSK,1STOS,HK1/CT/WHT TI

Lot #	Manufacturer's Lot #:	Manufacturer Name	Lot Qty
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CERTIFIED TRUE COPYEASYJET STORES DEPT.
UK 145.01209



Pack Slip

Wesco Aircraft Hardware Corp.

27727 Avenue Scott; Valencia, CA 91355

PH: 661 / 775-7200 FAX: /

Pack Slip #	Date	Page #
10688851	9/27/2016	6 of 6
Sales Order #	Ship To #	
10802652 SO	617872 ()	
Customer PO#		
CPE5571		

Item #	Quantities			Part Number / Description	Certifications	Promise Date
	Shipped	Backorder	U/M			
21	630	0	EA	NSA5353-04A	Cert-Mfr's C of C	9/23/2016

30538811 A000035130-0000

SPS Technologies Ltd.

10



Export Classification. EAR ECCN 9A991d

Country Of Origin: GB

US Harmonized Schedule Number: 8108.90.30.60 TITANIUM HILOK BOLT

METRIC TAPERLOK WASHER,CAD STL

Lot # Manufacturer's Lot #:

Manufacturer Name

Lot Qty

31372644 Y8822

Anillo

630



Export Classification. EAR ECCN 9A991d

Country Of Origin: US

US Harmonized Schedule Number: 7318.22.0000 WASHER STEEL

Comments:

*****Orders must be INVOICED PRIOR TO SHIPMENT*****

US FUNDS

Released in accordance with AS9120/ISO 9001:2008 requirements

FREIGHT ACCOUNT NUMBER: 124277507

Export Statement

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

CERTIFIED TRUE COPY

EASYJET STORES DEPT.
UK 145.01209

Certificate of Conformance:

Total Weight

Total # Boxes

Wesco Aircraft certifies that all products are of new manufacture. Documentation from the manufacturer certifies that the product meets all applicable Government, Customer and/or Manufacturer specifications and requirements. Wesco certifies that the whole of the supplies detailed hereon have been received under cover of the Release Certificate quoted above and are in the same condition when received. This documentation is maintained on file permanently and available upon request.

Signed: _____

Benito Carlos Dominguez
Executive Director Global Quality Systems

We hereby certify that no returns will be accepted without WESCO Returned Material Authorization number. Only lot traceable material will be accepted for return.

Wesco's standard terms and conditions can be found at https://www.wescoair.com/eng/company/Downloads/Wesco_Aircraft_Terms_and_Conditions_of_Sale.pdf and, except as explicitly agreed, Wesco and the buyer in a writing signed by both parties, shall be applicable to, and deemed incorporated into this order. These terms and conditions shall govern the order notwithstanding any terms and conditions that were included in the order by the buyer. Acceptance of the order shall be deemed an acceptance of these terms and conditions and, except as expressly agreed by Wesco and the buyer in a writing signed by both parties, these terms and conditions shall supersede, nullify and void any other terms, conditions, representations, understandings, in oral or written form.

Wesco Aircraft Hardware Corp.

Purchase Receiver Print

Date - 2/9/2015 | Receipt Date - 2/9/2015
Time - 13:31:27
Page - 1

Supplier - 593488

Receiver - 3377776-000

Customer PO

Ship From Air Industries (AIC/WESCO PIN CAPACITY)
12570 Knott St
Garden Grove CA 92841

Ship To Wesco Aircraft Hardware Corp.
27727 Avenue Scott
Valencia CA 91355

Not Rated



Order Date 8/22/2014 Reference AIC / WESCO PIN CAPACITY OR SOONER
Requested 8/22/2014 Buyer Number 8079 PO Number 1626000

RUSH/CONTRACT BACKORDER

Cert-MfrCofC, TR, RM, PC

Cert-MfrCofC, TR, RM, PC

WESCO AIRCRAFT HARDWARE CORP QUALITY REQUIREMENTS (DATED 02 MAY 2014)

WQR1-17,WQR39,WQR42,WQR47-49,WQR54-55 APPLY, (WQR41, WQR43, & WQR45 IF APPLICABLE).

**ANY OVER SHIPMENTS MUST BE APPROVED BY WESCO PRIOR TO SHIPMENT.

WQR36,

Mfr's C of C, Test Report, Raw Material Certs & Process Certs

Export Classification: NC

Secondary Export Classification: PL9009A2A

Requested Manuf. #	Manufacturer Name	Manufacturer Cage Code	Description	Cert Rqstd	Ordered	U M	Line
105682	Air Industries	06725					
	Wesco	Customer					
	Part #	Part #					
EN6114K4X8	EN6114K4X8		PIN,100CSK,1STOS,HK1/CT/WHT TI	240	15000	EA	1.000
Wesco Part #							

BRANCH QUANTITIES:

Branch/Plant: 2010 Valencia - Main

QOH:

COUNT !

ABC Category: D

Quantity Available 696-

Line #

Receipt Details

Quantity UOM Lot Number Location AIMS Line Number

13525 EA 31137781 T310992

Ordered Part Number	Cert Rqst'd	Rev Lvl	Comments	Additional Comments
EN6114K4X8	240		Mfr's CofC, Test/Raw/Process	

Total Quantity this Receipt 13525

Certifications:

Cert To: EN6114 Rev Level: P7 Cert Level: 243

Cert To: Rev Level: Cert Level:

Skip Lot ☒ JIT ☐
Gov't ☐ TSO ☐ PMA ☐

Lube:

Wesco Aircraft Hardware Corp.

Purchase Receiver Print

Date - 2/9/2015 | Receipt Date - 2/9/2015
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Page - 2

Supplier - 593488

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Requested 8/22/2014 Buyer Number 8079 PO Number 1626000



RUSH/CONTRACT BACKORDER

Receipt Details

Quantity	UOM	Lot Number	Location	AIMS Line Number
----------	-----	------------	----------	------------------

Wesco
Part #

Customer
Part #

Description

Cert
Rqstd

Ordered

U
M

Line

Certed To:

Rev Level:

Cert Level:

Manufacturer:

CONTRACT CUSTOMERS:

344527 Triumph Aerostructures Vought

Descriptive PN:



PACKING SLIP

PACKING SLIP #

000000000462548



AIR INDUSTRIES COMPANY

A **ACC** Company

MANUFACTURERS, DISTRIBUTORS • THREADED PRODUCTS
12570 KNOTT STREET, GARDEN GROVE, CALIFORNIA 92841
PHONE: (714) 892-5571 FAX: (714) 892-7904

REMIT TO:

Air Industries Company
3032 Solutions Center, Box 773032
Chicago, IL 60677-3000

SHIP TO: 0077031
WESCO AIRCRAFT CAPACITY AGMT
27727 AVENUE SCOTT

BILL TO:
WESCO AIRCRAFT CAPACITY AGMT
ATTN: ACCOUNTS PAYABLE
P.O. BOX 803010

VALENCIA, CA 91355
USA

SANTA CLARITA, CA 91380-3010
USA

SHIP VIA: WILL CALL

DATE PRINTED
2/7/2015

YOUR ORDER NUMBER
1626000

BILL OF LADING

TERMS
NET 45 DAYS

QUANTITY ORDERED	QUANTITY SHIPPED	PART NUMBER	UNIT
15,000	13,525	EN6114K4X8 100 DEG HI-LITE SHR 4 N/A LOT # T310992 ITEM #1 SHIP DATE 12/31/2014 RAW MATL & PROCESS CERTS REQD WQR1-17,39,42,47-49, 54-55 APPLY (WQR 41,43,45 IF APPLICABLE) WQR 36 APPLY AND DFAR REQUIRED AIRBUS DSQR INSPECTION REQD AIRBUS APPROVAL No. REQD FOR FURTHERANCE OF AIRBUS UK. THE PRODUCTS SUPPLIES HAVE BEEN MANUFACTURED, INSPECTED AND TESTED TO THE REQUIREMENTS OF AUK/SA/001-3 (AIRBUS SAS APPROVAL No. 100048)	EA

1 - 8"x6"x4" - 725 EA
4 - 12"x8"x4" - 3200 EA

TYPE OF CONTAINER
4-12"x8"x4", 1-8"x6"x4"

GROSS WEIGHT
93.7 LBS

SALES ORDER
394899

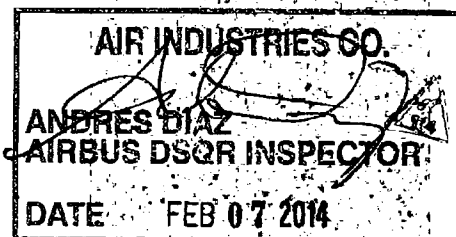
NUMBER OF CONTAINERS

5

SHIPPED BY
S.E.

DUE DATE
10/4/2014

THE PRODUCTS THAT ARE COVERED BY THIS AGREEMENT ARE OF U.S. ORIGIN OR OTHERWISE SUBJECT TO U.S. EXPORT AND OTHER FOREIGN TRADE CONTROLS. THE EXPORT, DEEMED EXPORT, RE-EXPORT, OR RELEASE OF THESE PRODUCTS TO OTHER COUNTRIES OR PARTIES MAY REQUIRE THE PRIOR APPROVAL OF THE U.S. GOVERNMENT. DIVERSION OF THESE PRODUCTS FROM THE AUTHORIZED DESTINATION CONTRARY TO U.S. AND INTERNATIONAL LAW IS PROHIBITED. THE PURCHASER AGREES TO COMPLY WITH APPLICABLE LAWS AND REGULATIONS OF THE UNITED STATES, OTHER RELEVANT JURISDICTIONS, AND PERTINENT INTERNATIONAL ORGANIZATIONS PERTAINING TO THE EXPORT, DEEMED EXPORT, RE-EXPORT, OR RELEASE OF THESE PRODUCTS. ANY VIOLATIONS OF THIS CLAUSE, AS DETERMINED SOLELY BY AIR INDUSTRIES COMPANY, SHALL BE DEEMED A MATERIAL BREACH OF THIS AGREEMENT.





12570 Knott Street
Garden Grove, CA 92841

Certification of Chemical and Physical Test

1092714

Products identified on this certificate have been manufactured, tested and inspected in accordance with, and unless otherwise noted below, conform in all respects to the applicable drawings, specification and/or standards.

Country of Origin: USA

Purchase Order Date: 9/2/2014

Customer	WESCO AIRCRAFT CAPACITY AGMT		0077031	Date of Certification	2/7/2015	Packing Slip No.	00000000462548				
Purchase Order	1626000	Part Number	EN6114K4X8		Revision	P7	Prod Order/ Lot Number	T310992			
Customer Part Number				Mfg. Date	N/A	Lot Size	15,890	Quantity Shipped	13,525		
Procurement Specification	EN6116, ED. P3,				Heat Treat Specification	SOLUTION AMS-H-81200- PB FAST.					
Finish Specification	EN 4473				Lubrication Specification	EN 6117					
Non-destructive Testing Specification	ASTM E1417- MITCHELL LAB.						Sample or 100%	SAMPLE			
Material	6-4 Ti		Material Specification	AMS4928		Heat No	U4A89		Supplier	ALLVAC, USA	
C	.029	Mn	P	S	Si	Ni	Cr	Mo	O2	.16	
Va	4.02	Ti	BAL	Al	6.15	N2	.014	Fe	.17	B	
Ma		Ca	Pb	Bi	Se	Sn	Y	<.001	H2	.0060	Cb
Ta											
Micro/Macro Structure Satisfactory	Decarburization NIL		Discontinuities Acceptable	ACCEPT		Work Effect Satisfactory	Grain Flow (Hd. thd) Satisfactory	Finish Part H2 ppm	47.9 PPM		

Double Shear Strength		Ultimate Tensile Strength		Tension-Tension Fatigue	
Pounds	Results	Pounds	Locations of Failure	Life Cycles	Locations of Failure
102.3 KSI			Too Short		Too Short
103.5 KSI					
103.6 KSI					
103 KSI					
104.8 KSI					
103.4 KSI					
102.8 KSI					
104.9 KSI					
104.2 KSI					
102.9 KSI					
103.5 KSI					
104.5 KSI					
103.6 KSI					
103.8 KSI					
103 KSI					

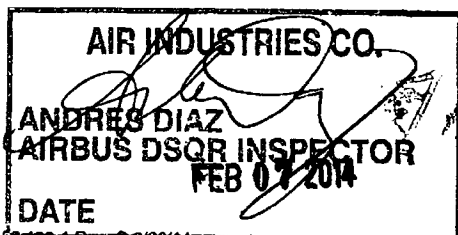
MIN. REQ	95 KSI	MAX REQ	NR	MIN. REQ	TOO SHO	MAX REQ	NR	AVE. LIFE	NR	AVE. REQ	NR	MIN. REQ	TOO SHOR
Ka	NR	X1-KaS	NR	Ka	NR	X1-KaS	NR	High Load	NR	Low Load	NR		
Stress Rupture				Torque Testing				Stress Durability					
Temp:		Sample Size:	50	Sample Size:				Load:	Torque	Sustained Load			
Load:		Torque	30 "#					Time:				Hours	
Time:								NDT Results - Satisfactory					
No failures.				No failures.				Type of Part:					

50 MICROS PASSED

THREADS WERE INSPECTED PER AS8879

PLATING THICKNESS .00033-.00038 ADHESION PASSED

AGE HEAT TREAT PER AMS-H-81200- PB FASTENERS



THE PRODUCTS SUPPLIED HAVE BEEN
MANUFACTURED, INSPECTED AND
TESTED TO THE REQUIREMENTS OF
AUK/SA/001-3
(AIRBUS SAS APPROVAL No. 100048)

Gloria Palomino
Gloria Palomino, Certification Clerk



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Purchase Order				1626000				Part Number		EN6114K4X8				Revision		P7		Prod Order/ Lot Number		T310992											
Customer Part Number								Mfg. Date		N/A		Lot Size		15,890		Quantity Shipped		13,525													
Procurement Specification								EN6116, ED. P3,				Heat Treat Specification								SOLUTION AMS-H-81200- PB FAST.											
Finish Specification								EN 4473				Lubrication Specification								EN 6117											
Non-destructive Testing Specification								ASTM E1417- MITCHELL LAB.								Sample or 100%				SAMPLE											
Material				6-4 Ti				Material Specification				AMS4928				Heat No.		U4A89		Supplier		ALLVAC, USA									
C		.029		Mn		P		S		Si		Ni		Cr		Mo		O2		.16											
Va		4.02		Ti		BAL		Al		6.15		N2		.014		Fe		.17		8											
Ma				Ca		Pb		Bi		Se		Sn		Y		.001		H2		.0060											
Ta																Hardness								NO RC							
Micro/Macro Structure Satisfactory				Decarburization				Discontinuities				ACCEPT				Work Effect Satisfactory				Grain Flow (Hd. thd) Satisfactory				Finish Part H2 ppm				47.9 PPM			
Double Shear Strength								Ultimate Tensile Strength								Tension-Tension Fatigue															
Pounds				Results				Pounds				Locations of Failure				Life Cycles				Locations of Failure											
103.4 KSI																															
103.4 KSI																															
103.9 KSI																															
105 KSI																															
104.2 KSI																															
103.9 KSI																															
105 KSI																															
104.2 KSI																															
103 KSI																															
104.2 KSI																															
102.7 KSI																															
103.2 KSI																															
103.6 KSI																															
103.6 KSI																															
103.2 KSI																															
MIN. REQ				95 KSI				MAX REQ				NR				MIN. REQ				TOO SHO				MAX REQ				NR			
Ka				NR				X1-KaS				NR				Ka				NR				X1-KaS				NR			
Stress Rupture								Torque Testing								Stress Durability															
Temp:								Sample Size:				50				Sample Size:															
Load:								Torque				30 "#				Load:				Torque				Sustained Load							
Time:				Hours												Time:								Hours							
No failures.								No failures.								NDT Results - Satisfactory															

Type of Part:

50 MICROS PASSED

THREADS WERE INSPECTED PER AS8879

PLATING THICKNESS .00033-.00038 ADHESION PASSED

AGE HEAT TREAT PER AMS-H-81200- PB FASTENERS

THE PRODUCTS SUPPLIED HAVE BEEN
MANUFACTURED, INSPECTED AND
TESTED TO THE REQUIREMENTS OF
AUK/SA/001-3
(AIRBUS SAS APPROVAL No. 100048)


Gloria Palomino, Certification Clerk





12570 Knott Street
Garden Grove, CA 92841

Certification of Chemical and Physical Test

1092714

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Country of Origin: USA

Purchase Order Date: 9/2/2014

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Purchase Order	1626000	Part Number	EN6114K4X8		Revision	P7	Prod Order/ Lot Number	T310992		
Customer Part Number				Mfg. Date	N/A	Lot Size	15,890	Quantity Shipped	13,525	
Procurement Specification	EN6116, ED. P3,			Heat Treat Specification	SOLUTION AMS-H-81200- PB FAST.					
Finish Specification	EN 4473			Lubrication Specification	EN 6117					
Non-destructive Testing Specification	ASTM E1417- MITCHELL LAB.					Sample or 100%	SAMPLE			
Material	6-4 Ti		Material Specification	AMS492B		Heat No.	U4A89		Supplier	ALLVAC, USA
C	.029	Mn	P	S	Si	Ni	Cr	Mo	O2	.16
Va	4.02	Ti	BAL	Al	6.15	N2	.014	Fe	.17	B
Mq		Ca	Pb	Bi	Se	Sn	Y	<.001	H2	.0060
Ta										
Micro/Macro Structure Satisfactory	Decarburization NIL		Discontinuities Acceptable	ACCEPT		Work Effect Satisfactory	Grain Flow (Hd. thd) Satisfactory	Finish Part H2 ppm	47.9 PPM	

Double Shear Strength				Ultimate Tensile Strength				Tension-Tension Fatigue			
Pounds		Results		Pounds		Locations of Failure		Life Cycles		Locations of Failure	
105.4 KSI											
103.1 KSI											
102.8 KSI											
103.14 KSI											
102.9 KSI											
102.9 KSI											
103.2 KSI											
103 KSI											
103.2 KSI											
102.7 KSI											
102.9 KSI											
105.1 KSI											
103.4 KSI											
103.3 KSI											
104 KSI											
MIN. REQ	95 KSI	MAX REQ	NR	MIN. REQ	TOO SHO	MAX REQ	NR	AVE. LIFE	NR	AVE. REQ	NR
Ka	NR	X1-KaS	NR	Ka	NR	X1-KaS	NR	High Load	NR	Low Load	NR
Stress Rupture				Torque Testing				Stress Durability			
Temp:				Sample Size:	50			Sample Size:			
Load:				Torque	30 "#			Load:	Torque	Sustained Load	
Time:			Hours					Time:			Hours
No failures.				No failures.				NDT Results - Satisfactory			

Type of Part:

50 MICROS PASSED

THREADS WERE INSPECTED PER AS8879

PLATING THICKNESS .00033-.00038 ADHESION PASSED

AGE HEAT TREAT PER AMS-H-81200- PB FASTENERS

THE PRODUCTS SUPPLIED HAVE BEEN
MANUFACTURED, INSPECTED AND
TESTED TO THE REQUIREMENTS OF
AUK/SA/001-3
(AIRBUS CAS APPROVAL No. 100048)

Gloria Palomino, Certification Clerk



12570 Knott Street
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Purchase Order Date: 9/2/2014

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Purchase Order	1626000				Part Number		EN6114K4X8		Revision		P7		Prod Order/ Lot Number		T310992		
Customer Part Number					Mfg. Date		N/A		Lot Size		15,890		Quantity Shipped		13,525		
Procurement Specification	EN6116, ED. P3,				Heat Treat Specification		SOLUTION AMS-H-81200- PB FAST.										
Finish Specification	EN 4473				Lubrication Specification		EN 6117										
Non-destructive Testing Specification	ASTM E1417- MITCHELL LAB.				Sample or 100%		SAMPLE										
Material	6-4 Ti		Material Specification		AMS4928		Heat No.		U4A89		Supplier		ALLVAC, USA				
C	.029	Mn	P	S	Si	Ni	Cr	Mo	O2	.16							
Va	4.02	Ti	BAL	Al	6.15	N2	.014	Fe	.17	B	Cb+T	Cu	Co				
Ma	Ca	Pb	Bi	Se	Sn	Y	< .001	H2	.0060	Cb							
Ta											Hardness					NO RC	
Micro/Macro Structure Satisfactory	Decarburization		Discontinuities		ACCEPT		Work Effect		Grain Flow (Hd. thd) Satisfactory		Finish Part H2 ppm		47.9 PPM				

Double Shear Strength				Ultimate Tensile Strength				Tension-Tension Fatigue			
Pounds	Results			Pounds	Locations of Failure			Life Cycles	Locations of Failure		
103.4 KSI											
105.1 KSI											
105.1 KSI											
103.1 KSI											
103.7 KSI											

MIN. REQ.	95 KSI	MAX REQ	NR	MIN. REQ	TOO SHO	MAX REQ	NR	AVE. LIFE	NR	AVE. REQ	NR	MIN. REQ	TOO SHOR
Ka	NR	X1-KaS	NR	Ka	NR	X1-KaS	NR	High Load	NR		Low Load		NR
Stress Rupture				Torque Testing				Stress Durability					
Temp:				Sample Size:		50		Sample Size:					
Load:				Torque		30 '#'		Load:		Torque	Sustained Load		
Time:			Hours					Time:					Hours
No failures.				No failures.				NDT Results - Satisfactory					

Type of Part:

50 MICROS PASSED

THREADS WERE INSPECTED PER AS8879

PLATING THICKNESS .00033-.00038 ADHESION PASSED

AGE HEAT TREAT PER AMS-H-81200- PB FASTENERS

THE PRODUCTS SUPPLIED HAVE BEEN
MANUFACTURED, INSPECTED AND
TESTED TO THE REQUIREMENTS OF
AUK/SA.001-3
(AIRBUS SAS APPROVAL No. 100048)



CERTIFICATION OF CONFORMANCE

7707 Bequette Ave
Pico Rivera, CA 90660

NONDESTRUCTIVE TESTING

Ph. (562) 949-6144
Fx. (562) 949-7584

www.mitchell-labs.com

CONTROL NUMBER
273111

SOLD TO

Air Industries Company
12570 Knott Street
Garden Grove, CA 92841
United States

SHIP TO

Air Industries Company
12570 Knott Street
Garden Grove, CA 92841
United States

CUSTOMER P.O. NUMBER
485185

CUSTOMER PHONE NO.
(714) 892-5571

CUSTOMER FAX NO.
(714) 892-7904

ORDER DATE
02/02/15

DATE SHIPPED
02/03/15

MATERIAL
6-4 TIT

LOT NO.
N/A

TERMS
NET75 (TEMP)

BUYER

ITEM	QTY. ORDERED	PART NUMBER / PROCESS / REVISION / DESCRIPTION		QTY. ACCEPTED	QTY. REJECTED
1	50	EN6114K4X8 PT	FASTENER		
TOTAL LOT SIZE: 15,638 PCS PRODUCTION ORDER NUMBER: T310992					
NOTE: INDICATIONS WERE NOT PRESENT SAMPLE SIZE 50 PCS PT: ASTM E1417-13, TYPE I, METHOD D, LEVEL 2 ACC CRITERIA: EN6116 REV.P3					
				50	0

FEB 04 2015

WE HEREBY CERTIFY THE PARTS LISTED HAVE BEEN TESTED IN CONFORMANCE WITH THE SPECIFICATIONS NOTED. THIS REPORT REPRESENTS OUR INTERPRETATION OF THE RESULTS OBTAINED FROM THE TEST AND IS NOT TO BE CONSTRUED AS A GUARANTY OR WARRANTY OF THE CONDITION OF THE MATERIALS TESTED.

PARTS, MATERIALS, ETC., AS PROCESSED BY US SHALL BE PRESUMED TO BE ACCEPTED AS SATISFACTORY BY YOU IF WE ARE NOT NOTIFIED OF SHORTAGES OR OTHER DISCREPANCIES WITH TEN (10) WORKING DAYS OF YOUR RECEIPT OF THE SAME.

THESE PARTS HAVE NOT COME INTO CONTACT WITH MERCURY OR MERCURY COMPOUNDS AT ANY TIME DURING PROCESSING AT MITCHELL LABORATORIES.

C. Madrid (PT Level 2)





DYNAMET
A Carpenter Company

198 Museum Road
Washington, PA 15301

Phone 724.228.1000
Fax 724.229.4196

PRODUCT CERTIFICATION

WORK ORDER
091933

SALES ORDER / RLS
047232 / 001

SOLD TO

Air Industries
12570 Knott Street
Garden Grove, CA 92841
USA

Quality System is registered
to ISO 9001:2008 and AS9100:2009

CUSTOMER P.O. 802122	CUSTOMER PART 111DB3BGK02670	QUANTITY 1,012 lbs	LADING NO 00069341	SHIPMENT DATE 08/01/2014
PART INFORMATION TI 6AL 4V Fastener Quality Dynalube Coll - 0.267" Dia. Specifications: AIC-MS-101 Rev: H; AMS 4928 Rev: T; AMS 4967 Rev: K Size: 0.267" Dia. +0.001" / -0"				
Chemical Report (Wt.%)				
Heat U4A89	Al T 6.15	Al B 6.15	C T .029	C B .030
	Fe T .17	Fe B .17	N T .014	N B .014
	O T .16	O B .16		
V T 4.02	V B 4.00	Y T <.001	Y B <.001	Ti BAL
				TOE <.20
Hydrogen (As Shipped)				
Hydrogen (%) 0.0060				
As Shipped Properties				
UTS #1 (psi) 151900	YS 0.2% #1 (psi) 127800	EL #1 (%) 18.9	RA #1 (%) 45	
UTS #2 (psi) 152800	YS 0.2% #2 (psi) 127700	EL #2 (%) 20.6	RA #2 (%) 45	
Hardness (HRC) 31				
Capability@1750°F (954°C) 1hr WQ +1000°F (538°C) 4hrs AC				
UTS #1 (psi) 179200	YS 0.2% #1 (psi) 164700	EL #1 (%) 14.0	RA #1 (%) 51	
UTS #2 (psi) 180200	YS 0.2% #2 (psi) 165000	EL #2 (%) 12.9	RA #2 (%) 24	
Hardness (HRC) 38	Shear 0° #1 (psi) 108600	Shear 90° #1 (psi) 108700	Shear 0° #2 (psi) 106400	
Shear 90° #2 (psi) 107600	Shear 0° #3 (psi) 108400	Shear 90° #3 (psi) 108000		
Metallography Results				
Microstructure Alpha/Beta				

NITON
ALLOY ANALYSIS OK

AUG 05 2014

AUG 01 2014



DYNAMET
A Carpenter Company

195 Museum Road
Washington, PA 15301

Phone 724.228.1000
Fax 724.229.4195

PRODUCT CERTIFICATION

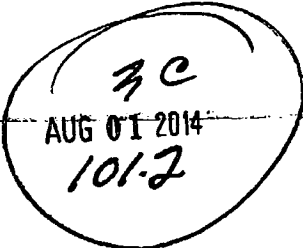
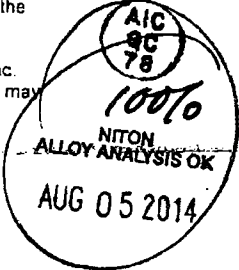
WORK ORDER
091933

SALES ORDER / RLS
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SOLD TO

Air Industries
12570 Knott Street
Garden Grove, CA 92841
USA

Quality System is registered
to ISO 9001:2008 and AS9100:2009

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	LADING NO	SHIPMENT DATE
802122		1,012 lbs	00069341	08/01/2014
Material Data				
Melt Origin USA		Bt Tr °F 1823		
Melt Source ATI-Allvac		Bt Tr °C 995		
Certification Information				
As Shipped Condition Annealed 1450°F (788°C) 1 Hr. A/C.				
CERTIFICATION REQUIREMENTS Material free of Alpha Case. Material tested in 4D gage length. Hydrogen analysis taken from final product. Material free of mercury and radioactive contamination. Material has been eddy current tested.				
<p style="text-align: right;"><i>Dennis L. Allen</i> Dennis L. Allen Quality Assurance Supervisor</p> <p style="text-align: center;">End of Certification</p> <p>This is to certify that the above test results are correct as contained in the records of the company.</p> <p>Certification shall not be reproduced except in full without the approval of Dynamet Inc. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal Law.</p> <div style="text-align: right;"></div>				





4374 Lancaster
Highway,
Richburg, SC 29729
US

CERTIFICATE OF TEST
Cert No.22411 Rev.2

AMENDED

Batch -
28144
Heat -
U4A89

Boyd Bradley

Sonny J. Bradley/les
Certification Auditor
Date : May 29, 2014

Amendment Notes - Amended Certification to amend the page numbers.

Customer Name & Address	Purchase Order No	Part No	Sales Order No	Sales Order Line No
Boeing/TMX Aerospace PO Box 34656 Seattle WA 98124 US	TZ-781095-TZ9279	836162	19421	1.1
Size (in)	Cross section	No Pcs	Weight (lbs)	Alloy
4.000	Round	35	13,438	ATI 6-4" Alloy

Remarks:

BCA-65325-1194
Purchased For: Dynamet
Customer PO#: 049555 & Item #2
Customer P/N: 111PX6-4.000
TMX W/O: ZB8122
Boeing Used On: Fastener
Contract #: STD-65253-0372

Specifications

Spec Name	Rev	Compliance Condition
DI-1036	B	Compliant
DI-2111	B	Compliant

Reference Specifications

Spec Name	Rev	Class	Compliance Condition
AMS 4928	T		Capable Of
ASTM B348	2013	GRADE=5	Capable Of
D1-4426	IA		Compliant
D6-B1628	B		Compliant
D6-82479	C		Compliant

Remarks:

Capable Of: ATI Allvac guarantees material will meet specification requirements in the final product after additional appropriate processing but may not be tested in the 'As Shipped' condition.

As Shipped Condition

Hot Work Type

Forged

Remarks:

Material was sent to Solar Atmospheres for vacuum degassing at intermediate billet size.

Surface Finish

Peel/Shave & Polish

Melt Method Details

Primary Melt
Vacuum Arc Remelt

Facility
ATI Allvac

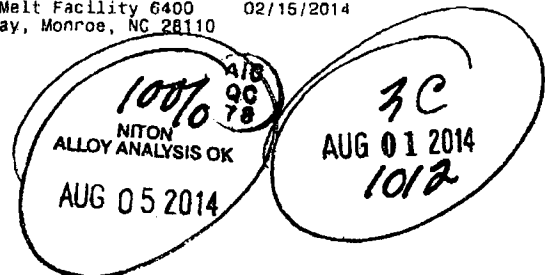
Address
Bakers Melt Facility 6400 Alloy Way,
Monroe, NC 28110 US

Remelt
Vacuum Arc Remelt

Facility
ATI Allvac

Address
Bakers Melt Facility 6400
Alloy Way, Monroe, NC 28110
US

Date
02/15/2014



AMENDED ATI Allvac 4574 - Rebar High Bay, Richburg, SC 29729 US

Batch - 28144

Heat - U4A89

CHEMISTRY

Piece ID	TOP		BOTTOM	
Sample Source	Top		Bottom	
Test Facility	ATI Allvac - Monroe		ATI Allvac - Monroe	
Elements	UOM	Method		
Al	%	XRF	6.15	6.15
V	%	XRF	4.02	4.00
Fe	%	XRF	0.17	0.17
O	%	GAS	0.16	0.16
C	%	CS	.029	.030
N	%	GAS	.014	.014
Cu	%	WET	<0.01	<0.01
B	%	WET	<0.001	<0.001
Si	%	XRF	<0.01	<0.01
Y	%	WET	<0.001	<0.001
Ti	%	XRF	BAL	BAL

Test Comments: Other Elements (each) = 0.05 wt.% max.
Total Other Elements = 0.20 wt.% max.

Remarks:

CS = Combustion/IR Detection

GAS = Inert Gas Fusion

XRF = X-Ray Fluorescence

WET = Inductively Coupled Plasma Emission

Piece ID	T1-1-1-1		B3-3-2-2	
Test Facility	ATI Allvac - Monroe		ATI Allvac - Monroe	
Elements	UOM	Method		
H	%	GAS	0.0026	0.0024

Test Description: Hydrogen: Billet - 0.25" Below Surface

Remarks:

Test Methods: C = ASTM E1941 (2010); O/N = ASTM E1409 (2013); H = ASTM E1447 (2009); ICP = ASTM E2371 (2013); XRF = ASTM E639 (2011)

METALLOGRAPHY

Remarks:

Beta Transus Calculated by Chemistry:

1822 F. = TOP

1824 F. = BOTTOM

Ultrasonic

Test Facility: ATI Allvac - Richburg, SC

Remarks:

Material ultrasonically inspected and found acceptable to the following specifications:

AMS 2631 Class A1

AMS-STD-2154 Type I Class A

Macro

Test Facility	Ethanol	Magnification
ATI Allvac - Monroe, NC	Ammonium Bifluoride	1X

Remarks:

Material macro evaluated top, middle and bottom of each ingot and found acceptable.

Outside Source Addresses

Outside Testing Laboratory

Facility

ATI Allvac

Subcontracted Operations

Facility

Solar Atmospheres

Address

2020 Ashcraft Avenue, Monroe, NC 28110 USA

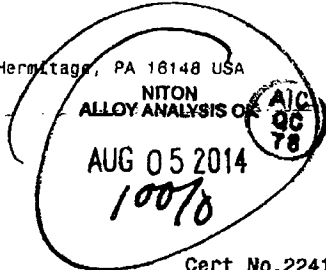
Address

30 Industrial Rd., Hermitage, PA 16148 USA

Maps Attached

Attached File Description(s):

1) Billet Map



AMENDED ATI Allvac 4374 Lancaster Highway, Richburg, SC 29729, US

Batch - 28144

Heat - U4A89

Other Attached Files

Attached File Description(s):

1) deviation approval

Special Remarks

Material produced and controlled in accordance with T.I. SSA Dynamet-001 Rev.002.

Remarks

Material has been produced, sampled, inspected and tested in accordance with the customer purchase order and referenced specifications and conforms to the requirements unless otherwise noted in this Certificate of Test.

If customer purchase order does not specifically reference a revision to a specification, ATI Allvac will work to the latest revision on file and in effect at the time of order placement.

Any chemical elements analyzed and found to have values below the actual limits of detection may be reported as < less than or reported at the detection level.

When values are reported to the significant places called for in the specifications, rounding will be done in accordance with ASTM E29.

This is to certify that during the manufacturing, handling, testing and inspection, this material did not come in direct contact with mercury or any device employing a single boundary of containment.

ATI Allvac products have not come in contact with radioactive materials during manufacturing or processing.

No weld repair has been performed on this material.

Material melted and manufactured in the United States of America unless otherwise noted in this Certificate of Test.

The recording of false, fictitious, or fraudulent statements or entries on this document may violate Federal statutes, including but not limited to Title 18, Chapter 47 of the United States Code and may be punishable as a felony.

This Certificate of Test shall not be reproduced, except in full, without the written approval of ATI Allvac Quality.

Material Safety Data Sheets (MSDS) - View or print from our site: www.atimetals.com
Printed copies are available upon request from the ATI Allvac Sales Department.

