

6265.2



VSMPO-AVISMA Corporation  
Cert 02107Y15

1, Parkovaya St., Verkhnyaya Saida, Sverdlovsk reg.,  
624 760, RUSSIA  
Phone (34346) 2-36-32, 2-17-86  
Fax (34346) 2-47-36, 2-05-00

**INSPECTION  
CERTIFICATE**



Contract: 94054108TNG Annex 25  
Purchaser order: 14-0013044/30285-RM

Date: 16.02.2015  
Condition of delivery: Hot Rolled, Annealed, Machined Ground, Pickled.

CERTIFICATE: 02107Y15  
Purchaser: Tiris International SA, Switzerland  
Quality alloy: Ti-6Al-4V  
Terms of delivery: AMS 4928U, AMS-T-9047A, AMS 6931C, ASTM B 348-13, ASTM B 361-13, ASTM F 1472-08

Bars #	Units	Weight, (kg)	Object	Dimensions (mm) or Drawing #	Heat #	Lot #
-126		558	Bar	dia 19,05 x 3048-3658	0-24-13280	913-1

Chemical Composition, %	Ti-remainder	Residuals, %	In the Part, %
Requirement	AMS 4928U, AMS-T-9047A, AMS 6931C, ASTM B 348-13, ASTM F 1472-08		

	Al	V	Fe	O	C	N	Y	each		H
								max	total	
TOP	5.5 - 6.75	3.5 - 4.5	max 0.30	max 0.20	max 0.08	max 0.05	max 0.005	max 0.10	max 0.40	max 0.0125
BOTTOM	6.27 - 6.37	4.29 - 4.25	0.25 - 0.26	0.178 - 0.167	0.019 - 0.018	0.004 - 0.004	<0.0010 - <0.0010	<0.10 - <0.10	0.171 - 0.174	1-1 - 6-2

Microstructure testing: As per AMS 6831C par. 3.5.1.4, AMS 4928U par. 3.6, AMS-T-9047A par. 3.9, AMS 6931C, AMS 4928U par. 3.5.1.2, 3.5.1.3, AMS-T-9047A par. 3.6, 3.9, ASTM F 1472-08 par. 9.1.9.3  
Free from alpha-case.

Ultrasonic inspection: As per AMS-TD-2154A CL. A. Longitudinal wave. Type I  
AMS 2631D CL. A1. Longitudinal wave. Immersion method.  
Focused transducer.

	0.2% proof stress	Tensile strength	Elongation	Reduction	Heat treatment conditions		Beta-transus	T, °C
					T, °C	Time		
AMS 4928U, ASTM B 348-13	min 862	min 931	min 10	min 25	730°	1 h	actual	1/2R actual
AMS 6931C, AMS-T-9047A	min 862	min 931	min 10	min 25	730°	air cooling	Top 1013	Bottom 1018
AMS B 361-13, ASTM F 1472-08	min 862	min 931	min 10	min 25	730°	air cooling	Top 1013	Bottom 1018

Ingot: 2 VAR

in the event of any dispute in connection with this certificate, the supplier shall be held responsible for its accuracy with the technical specifications of the contract, copy of which is attached to this certificate and which, if any, have been completed, the supplier normally is aware of and which shall be subject to the same conditions as the contract, but without prejudice to the supplier's liability.

Radiation free. Mercury free.  
Nominal diameter after rolling 21 mm.  
Melting date: 19.01.2015  
Ingot melted by VSMPO, Verkhnyaya Saida, Russia  
Production start-up date: 22.01.2015

Approved by: Mitrokhina O.K.  
Signature: *Mitrokhina O.K.*



Stamp

**VSMPO**  
VSMPO-Titus, US  
Pittsburgh, PA

**INSPECTION REPORT**

Form# V056  
Rev. 1  
3 Jan 2011

Alloy:	VSMPO P.O.#:	Inspected By:	Date:
Form:	Length Tol:	QA Approval:	Date:
Size :	Width / Ø Tol:	Thickness (Ø) Tol:	Invoice #:
6-4	30288-RM	BRK	8-27-15
Bar		RWJF	9/3/15
.750"	+ .005" / -.003"		756 1574

Package#	Heat #	Qty	ID #	Test ID	1/Ø 1	1/Ø 2	Width	Length	ART
324647	0-23-13587	144		22	.751	.751		130 3/4	A
				22	.751	.751		142 3/4	A
				20	.751	.751		136 1/4	A
				20	.752	.752		142 3/4	A
				14	.752	.752		131 1/8	A
				23	.752	.752		134 1/4	A
				23	.752	.752		142 1/4	A
				18-1	.750	.750		131 5/8	A
				18	.752	.752		131 1/2	A
				19	.751	.751		127 7/8	A
		126		1	.753	.753		141 1/2	A
324542	0-24-13280			1	.752	.752		138 7/8	A
				1	.753	.752		139 5/8	A
				4	.753	.752		134 5/8	A
				1	.752	.751		133	A
				3	.753	.752		138 1/4	A
				1	.753	.753		125 1/8	A
				42	.752	.752		133 1/2	A
				5	.752	.753		136 7/8	A
					.753	.753		142 3/4	A

Stencil Markings:	Tool ID:
AMS 4928 U AMS 69312 AMS-T-9047 ASTM B 348-13 ASTM B 381-13	DMIC-7
Visual Inspection:	Tool ID:
ASTM F1472-08E1 HIT# JFL6ALGVZ US-MPO	T-M-20

OK