



VSMPO-AVISMA Corporation

Cert. 35374Y19

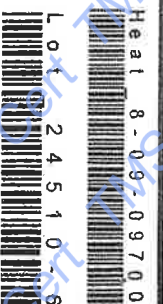


1, Parkovaya St., Verkhnyaya Salda, Sverdlovsk reg.,
624 760, RUSSIA
Phone Marketing and Sales (34345) 62-947
Fax Chemical office (34345) 51-498

Quality Management System complies
to AS 9100/ISO 9001, CERT. № 01 117 048312

INSPECTION CERTIFICATE

SABRe Edition 3, Revision 1.2
Certificate is issued per
requirements of EN-10204-3.1



Heat 8-09-09700
Lot 24510-6

CERTIFICATE: 35374Y19

Purchaser: Tirus International SA, Switzerland

Quality/alloy: TI-6AL-4V

Condition of delivery: Annealed

Date: 15.12.2019

Contract: 84011010TING Annex 15

Purchaser order: 18-0022338/35620-RM

Terms of delivery: AMS 4911P, AMS-T-9046B AB-1, S-400 03/06/2016, S-1000 18.12.2013, OD 4.6-40 Rev. 8, Am. 0, SQR-001F, D1-4426

Sheet #	Units	Weight, (kg)	Object	Dimensions (mm) or Drawing #	Heat #	Lot #
32	1	11	Sheet	1,016 x 914,4 x 2438,4 .04" x 36" x 96" (ST x LT x L)	8-09-09700	24510-6

Requirement:	Chemical Composition, %			Ti-remainder			Residuals %			In the Part, %	
	AL	V	Fe	O	C	N	Y	max	total	Sample #	max
AMS 4911P	5,50 -	3,50 -	0,30	max	max	max	max	0,10	0,40		0,015
AMS-T-9046B AB-1	6,75	4,50	0,30	0,20	0,08	0,05	0,005	<0,10	0,09	32	0,0057
TOP	6,38	4,19	0,20	0,167	0,010	0,008	<0,001	<0,10	0,09		
BOTTOM	6,42	4,23	0,16	0,171	0,010	0,006	<0,001	0,08			

Requirement:	0,20% proof stress		Tensile strength		Elongation		Sample #	Bend test		Heat treatment conditions	
	ksi	min	ksi	min	%	min		Angle 105°	Long	Transverse	time
AMS 4911P											
AMS-T-9046B AB-1											
	Longitudinal										
	32	141,7	153,4	14,5	32	105°	790	50 min	air cooling		
	51	143,1	154,1	14,5		(1454)					
	Long Transverse										
	32	138,5	149,5	12,6							
	51	140,1	150,1	13,9							

We certify that, subject to exceptions or concessions listed hereafter, the supplies detailed here were manufactured in accordance with the technical specifications of the contract, order or sub-order and that all inspections operations and tests, having been completed, the supplies comply in every respect with the relevant particular specifications, drawings, and relevant standards and regulations in force. Information particular to the supplies delivered: Specify the reference of concessions granted:

Approved by Melkova E.V.

Signature

Stamp



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Macrostructure Testing N/A
Microstructure testing: As per AMS-T-9046B AB-1 par. 3.8, 3.10
AMS 4911P par. 3.5.3.3, 3.5.4.2
Material without surface contamination.
Ultrasonic inspection: N/A

Ingot is manufactured in accordance with Method MP 39.050 BO-1997 Rev. W
GE Supplier Code - 25610
VSMPO-AVISMA Corporation has complied with all producer requirements of AS6279
Mercury-free
Ingot melted by VSMPO, Verkhnyaya Salda, Russia
Production start-up date: 01.09.2019