



VSMPO-AVISMA Corporation
Cert. 1788BY19



1, Parkovaya St., Verkhnyaya Salda, Sverdlovsk reg.
624 760, RUSSIA

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Quality Management System complies
to AS 9100/ISO 9001, CERT. No 0117 048312

INSPECTION CERTIFICATE

Heat 0-16-00916



Lot 926

Certificate is issued per
requirements of EN-10204-3.1

CERTIFICATE: 1788BY19

Purchaser: Tirus International SA, Switzerland

Quality/alloy: Ti-6AL-4V

Date: 05.07.2019

Condition of delivery: Hot Rolled, Annealed, Machined,
Ground, Pickled

Contract: 84054120TDD Annex 23

Purchaser order: 18-0022108/35445-RM

Terms of delivery: ASTM F 1472-14, M000196M,
V 100 6, AMS 4928W, ISO 5832-3:2016(E),
ASTM B 348-13(Gr 5)

Bar #	Units	Weight (kg)	Object	Dimensions (mm) or Drawing #	Heat #	Lot #
18		261	Bar	dia 34,93 x 3048-3658	0-16-00916	926
Chemical Composition, %						
Requirement: Ti-remainder						
ASTM F 1472-14, M000196M, AMS 4928W, ISO 5832-3:2016(E), ASTM B 348-13(Gr 5)						
	Al	V	O	Fe	C	N
	5,5 - 6,75	3,5 - 4,5	max 0,20	max 0,30	max 0,08	max 0,05
TOP	6,52	4,17	0,164	0,17	0,021	0,004
BOTTOM	6,51	4,29	0,158	0,20	0,022	0,003
Requirement:						
	Al	V	O	Fe	C	N
	5,5 - 6,75	3,5 - 4,5	max 0,20	max 0,30	max 0,08	max 0,05
TOP	6,52	4,17	0,164	0,17	0,021	0,004
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TOP	6,52	4,17	0,164	0,17	0,021	0,004
BOTTOM	6,51	4,29	0,158	0,20	0,022	0,003

Requirement:	0.20% proof stress	Tensile strength	Elongation	Reduction	Beta-transus	Heat treatment conditions
	MPa	MPa	%	%	T, °C(°F)	time
AMS 4928W	min	min	min	min	≥968	-
ASTM B 348-13(Gr 5)	min	min	min	min	≥968	-
M000196M	min	min	min	min	≥968	-
ASTM F 1472-14	min	min	min	min	≥968	-
ISO 5832-3:2016(E)	min	min	min	min	≥968	-
	780	931	10	25	730 (1346)	1 h
	Longitudinal				air cooling	
1-1	913	970	19,7	51,9	Top (1819)	
3-2	919	976	20,0	51,5	Bottom (1819)	

Macrostructure testing: As per AMS 4928W par. 3.6
Microstructure testing: As per ASTM F 1472-14 par. 9.1, 9.3; M000196M par. 5.1, 6.1
AMS 4928W par. 3.5.1.2.2, par. 3.5.1.3; Free from alpha-case
ISO 5832-3:2016(E) par. 5 Transverse, Fig. A2, A3
Ultrasonic Inspection: As per AMS 2631E CL A1, Longitudinal wave, Immersion technique

VSMPO-AVISMA Corporation has complied with all producer requirements of AS6279
Ingot melted by VSMPO, Verkhnyaya Salda, Russia
Mercury free. Radiation free.
Nominal diameter after rolling 38 mm
Melting date: 01.06.2019
Production start up date: 06.06.2019

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.

Approved by Maslova Y.V.

Signature

Stamp