



VSMPO-AVISMA Corporation

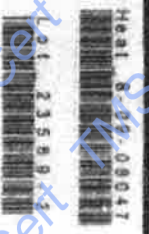
Cell 02214Y16A



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# INSPECTION CERTIFICATE

FORM 002/00 C  
 5th Ed., Edition 2, Revision 1  
 EИ 10204-31-85 (GOST) ИСО 9001 CERT. No 0117248912



CERTIFICATE: 02214Y16A

Purchaser: LARIES PTE LTD

Quantity/lot: TL-6AL-4V

Terms of delivery: ASTM B 265-13a, AMS 4911N, AMS 4928U, WL 3.7164 Part 1 (1990), LN 5207.1991, BS 27A 56-2009 AIMS 03-18-001 Iss 5, BS 31A 11-2009 ASNA 3304J, MIL-T-9047G, MIL-T-9046J, ABS 5125 Iss 6 Material Code A

Date: 15.02.2018

Condition of delivery: Annealed

Purchaser order: 15-00155559/DO-0007087/S-09/15 (14-1167TP)

Contract: 7020437TNG Annex 10

Plate #	Ureils	Weight (kg)	Object	Dimensions (mm) or Drawing #	Heat #	Lot #
2	1	1050	Plate	50,8 x 1219,2 x 3657,6	8-09-08047	2359-2

Requirement:	AI		V		F <sub>2</sub>		C		N		Y		D		H (%)		Residuals, %	
	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
ASTM B 265-13a, MIL-T-9046J, MIL-T-9047G, BS 31A 11-2009 BS 27A 56-2009, WL 3.7164 Part 1 (1990), ASNA 3304J, AMS 4911N, AMS 4928U, AIMS 03-18-001 Iss 5	5.50	3.50	4.50	4.50	0.30	0.06	0.06	0.06	max	max	0.20	max	0.20	max	0.0125	max	0.10	0.40
TOP	8.32	4.25	0.16	0.16	0.024	0.004	<0.001	0.182	2	0.0042							<0.10	0.090
BOTTOM	0.65	4.16	0.15	0.15	0.022	0.003	<0.001	0.182									<0.10	0.089

Requirement:	0.20% proof stress		Tensile strength		Elongation		Reduction		Heat Treatment	
	MPa	MPa	min	min	%	%	min	min	T, °C	Time
AMS 4911N	827	886	895	1190	10	actual			778-782	2 h 55 min
MIL-T-9047G	827	886	895	1190	10	actual				air cooling
Contract										
AMS 4928U										
BS 27A 56-2009										
ASNA 3304J										
AIMS 03-18-001 Iss 5										

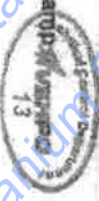
Macrostructure testing: N/A  
 Microstructure testing: As per AIMS 03-18-001 Iss 5, par. 30 DIN EN 3114-003-2007 Fig. 318, 319, by area 3T16; par. 34 Grain size # 9.5, par. 74, AMS 4911N det. 3.5.3.3, 3.5.4.2, MIL-T-9046J par. 3.8, 3.11, DIN 65039, 1993 par. 3.2.3.1, 3.2.3.3, ETTCA 1991 Fig. P8, P9, by area P16, BS 27A 56-2009 (BS 31A 100-2009) par. 51; Material without surface contamination, as per AMS 2631D Cl. A1, Longitudinal wave, Immersion method Focused transducer AMS-STD-2154 A, C1 A, Longitudinal wave, Type I.

We certify that, subject to acceptance of compressive yield strength, the samples tested have been checked in accordance with the technical specifications of the contract (type of sub-order part) and all mechanical properties and tests required have been achieved. We warrant that every sample with the above-mentioned manufacturer's mark and lot number is representative of the entire production lot. This certificate is not valid for any other purpose.

Contract	AMS 4928U	BS 27A 56-2009	ASNA 3304J	AIMS 03-18-001 Iss 5
Longitudinal	893	954	12.7	32.1
Long-Transverse	942	1014	14.0	36.5

Approved by Dushina A.A.

signature







TMSAPO- AVISMA Corporation

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# ANNEX TO INSPECTION CERTIFICATE

## ANNEX 1 TO CERTIFICATE

02214Y16A

SABE, Edition 2, Revision 1

RRES 9000 C

EN 12043-1, 05 PROVEN 30 000 CERT 09/01/117 29012

Requirement	0,20% proof stress		Tensile strength		Elongation		Reduction		Requirement	0,2% proof stress		Tensile strength		Elongation		Reduction			
	MPa	min	MPa	min	%	min	%	min		MPa	min	MPa	min	%	min	%	min	%	
BS 31A 11 2009	876	930	957	1160	15,3	8	34,4	actual	MIL-T-9046J	128,0	120	128,3	130	12,7	10	-	-	-	
	Longitudinal		Longitudinal		Longitudinal		Longitudinal			Longitudinal		Longitudinal		Longitudinal		Longitudinal			
ASTM B 265-13A	828	868	828	885	10	-	-	-		136,6	120	147,0	130	14,0	-	-	-	-	-
	Transverse		Transverse		Transverse		Transverse			Transverse		Transverse		Transverse		Transverse			
2	931	931	1001	13,2	-	-	-	-		891	891	909	15,0	-	-	-	-	-	-
	Longitudinal		Longitudinal		Longitudinal		Longitudinal			Short-Transverse		Short-Transverse		Short-Transverse		Short-Transverse			
WL 3,7164 Part 1 (1990)	830	890	900	971	15,0	8	20	20	BS 21A 66 2009	891	891	909	15,0	-	-	-	-	-	-
	Longitudinal		Longitudinal		Longitudinal		Longitudinal			Short-Transverse		Short-Transverse		Short-Transverse		Short-Transverse			
2	930	930	1010	14,8	-	-	-	-	BS 31A 11 2009	891	891	909	15,0	-	-	-	-	-	-
	Transverse		Transverse		Transverse		Transverse			Short-Transverse		Short-Transverse		Short-Transverse		Short-Transverse			
2	930	930	1010	14,8	-	-	-	-	BS 31A 11 2009	891	891	909	15,0	-	-	-	-	-	-
	Transverse		Transverse		Transverse		Transverse			Short-Transverse		Short-Transverse		Short-Transverse		Short-Transverse			
2	930	930	1010	14,8	-	-	-	-	BS 31A 11 2009	891	891	909	15,0	-	-	-	-	-	-
	Transverse		Transverse		Transverse		Transverse			Short-Transverse		Short-Transverse		Short-Transverse		Short-Transverse			
2	930	930	1010	14,8	-	-	-	-	BS 31A 11 2009	891	891	909	15,0	-	-	-	-	-	-
	Transverse		Transverse		Transverse		Transverse			Short-Transverse		Short-Transverse		Short-Transverse		Short-Transverse			
2	930	930	1010	14,8	-	-	-	-	BS 31A 11 2009	891	891	909	15,0	-	-	-	-	-	-
	Transverse		Transverse		Transverse		Transverse			Short-Transverse		Short-Transverse		Short-Transverse		Short-Transverse			
2	930	930	1010	14,8	-	-	-	-	BS 31A 11 2009	891	891	909	15,0	-	-	-	-	-	-
	Transverse		Transverse		Transverse		Transverse			Short-Transverse		Short-Transverse		Short-Transverse		Short-Transverse			
2	930	930	1010	14,8	-	-	-	-	BS 31A 11 2009	891	891	909	15,0	-	-	-	-	-	-
	Transverse		Transverse		Transverse		Transverse			Short-Transverse		Short-Transverse		Short-Transverse		Short-Transverse			

Approved by

Dushina AA

Signature

Stamp

