



VSMPO-AVISMA Corporation

Cert 02869Y21



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INSPECTION CERTIFICATE

Certificate is issued per requirements of EN-10204-3.1

Heat 8-03-08429



Lot 12716



Contract: 28029110TVV Annex 63
Purchaser order: 20-00293520421177462
Terms of delivery: ASTM B 265-20 a

Date: 28.02.2021
Condition of delivery: Annealed

CERTIFICATE: 02869Y21
Purchaser: TIRUS INTERNATIONAL SA, Switzerland
Quality/alloy: GRADES

Sheet #	Units	Weight, (kg)	Object	Dimensions (mm/inch) or Drawing #	Heat #	Lot #
	60	1522	Sheet	2,54 x 914,4 x 2438,4 (1" x 36" x 96")	8-03-08429	12716

Sheet #	12,13,14,15,16,17,18,21,22,23,24,25,26,28,29,34,35,36,43,48,49,50,51,52,53,54,55,56,57,58,59,60,62,63,64,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,
	61,62,83,84,85,86,87,88,89,90

Requirement:	Chemical Composition, %				Ti-remainder		Heat treatment conditions		In the Part, %		Residuals, %	
	Al	V	O	Fe	C	N	T	H	each	total	max	total
ASTM B 265-20 a	5,50 - 6,75	3,50 - 4,50	max 0,20	max 0,40	max 0,09	max 0,05					0,10	0,40
TOP	6,53	4,19	0,155	0,20	0,022	0,006					<0,10	0,082
BOTTOM	6,31	4,18	0,138	0,25	0,021	0,003					<0,10	0,092

Requirement:	0.20% proof stress MPa		Tensile strength MPa		Elongation %		Bend test Angle 105°		Heat treatment conditions		In the Part, %	
	min	max	min	max	min	max	min	max	T, °C(°F)	time	Sample #	max 0,015
ASTM B 265-20 a	828	946	895	1014	10	15,4	105°	105°	788-792 (1450-1458)	35 min	11	0,0059
	14	944	1012	1012	14,3	14,3	105°	105°	air cooling			
	11	986	1036	1036	15,6	15,6	105°	105°				
	14	972	1027	1027	14,5	14,5	105°	105°				

Macrostructure testing: N/A
Ultrasonic inspection: N/A

Bend test pass
Tolerance for non-flatness as per AMS 2242 table 14
Production start-up date: 26.12.2020

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;



Stamp 10

Signature

Alexeeva O.M.

Approved by