



"VSMPO-AVISMA Corporation"

1, Parkovaya St., Verkhnaya Salda, Sverdlovsk reg.,
624 790, RUSSIA
Phone (34345) 2-38-32, 2-17-66
Fax (34345) 2-47-36, 2-05 00

**INSPECTION
CERTIFICATE**

CERTIFICATE: 01336715

Date: 01.02.2015

Contract: 28029108TVV Annex 2

Purchaser: Trus International SA, Switzerland
Quality/alloy: GRADES
Condition of delivery: Forged, Annealed,
Machined, Pickled

Purchaser Order: 14-0013859/30526-FRM/89826701
Terms of delivery: ASTM B 348-13



Billet #	Units	Weight (kg)	Object	Dimensions (mm) or Drawing #	Heat #	Lot #
1	1	314	BILLET	dia 165, 1 st x 3000-5000	0-27-09010	423-1

Chemical Composition, %	Ti-remainder		C	N	O	Fe	Al	V
	max	min						
Requirement: ASTM B 348-13	5.5 - 6.75	3.5 - 4.5	max 0.08	max 0.05	max 0.20	max 0.40	max 5.5	max 3.5
TOP	6.48	4.05	0.019	0.005	0.25	0.25	6.48	4.05
BOTTOM	6.49	3.98	0.020	0.005	0.24	0.197	6.49	3.98

Requirement:	0.20% proof stress MPa	Tensile strength MPa	Elongation %	Reduction %	Heat treatment conditions		Beta-transus °C
					T °C	time	
ASTM B 348-13	min 828	min 895	min 10	min 25	T °C	time	actual
1T	860	944	16.7	35.1	730	2 h	Top 1003
1T	875	961	16.2	35.8	air cooling		Bottom 1003

Macrostructure testing N/A
Microstructure testing N/A

Ultrasonic Inspection As per AMS 2631D Class A (Grade 1, FBH 2.0 mm), Longitudinal, Wave Immersion technique using focused transducers

We certify that, subject to acceptance 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, having been completed, they supplies comply in every respect with the relevant technical specifications, drawings, test relevant standards and regulations in force. Information particular to the supplies delivered. Identify the reference of concessions granted.

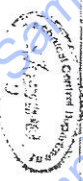
See Ingot Lay-Out Plan (Annex 1)
Production start-up date: 19.01.2015

Approved by: Mitokhina O.K.

Signature

Mitokhina

Stamp



52013



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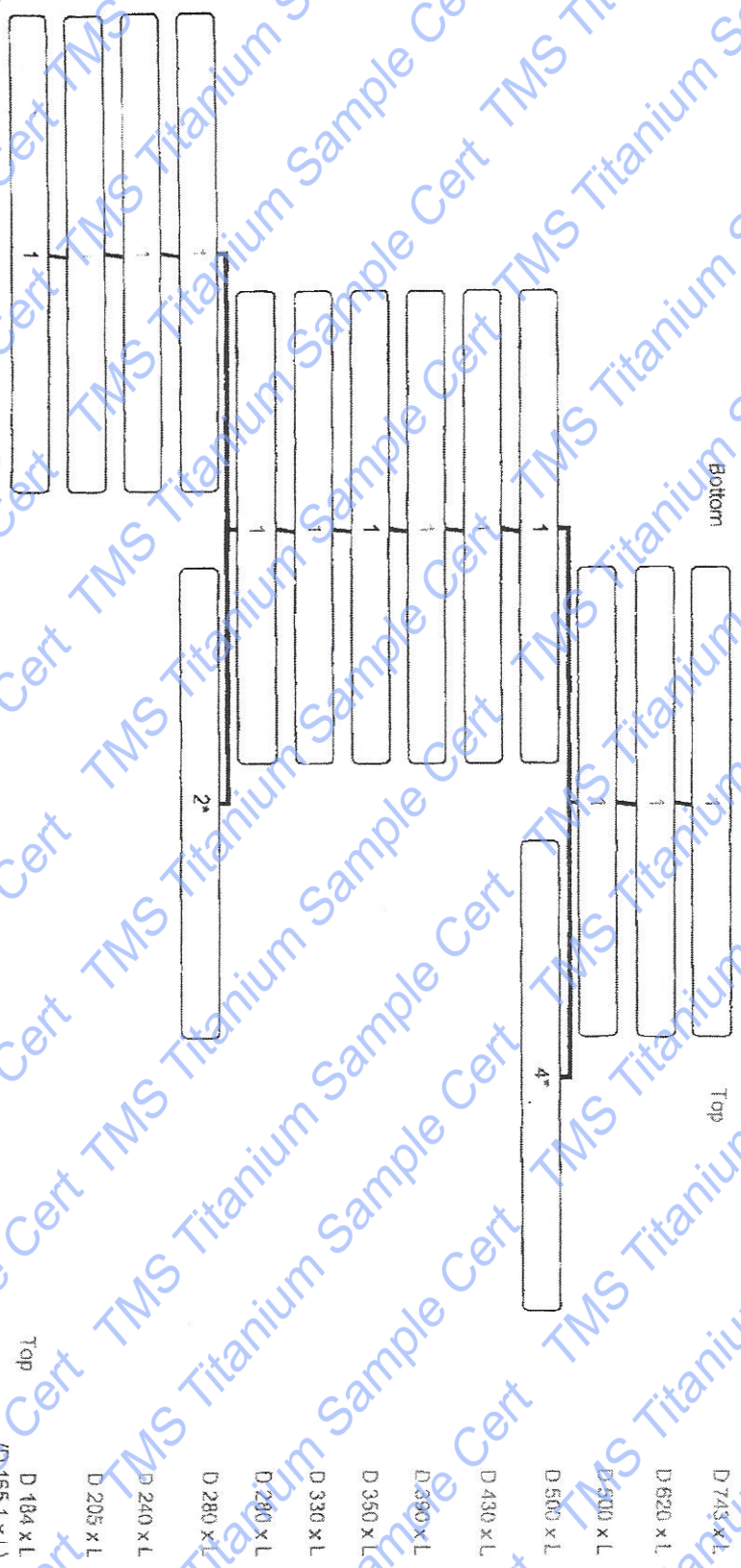
1, Partovaya St., Verkhnyaya Selda, Sverdlovsk reg.
624 760, RUSSIA
Phone (34345) 2-38-32, 2-47-66
Fax (34345) 2-47-36, 2-05-00

ANNEX 1
INSPECTION
CERTIFICATE

EN 10204-1 AS SUPPLEMENT TO EN 10204

Alloy: **GRADE5**
Heat: **0-27-08010**

Annex 1
INGOT LAY-OUT PLAN
to the diameter of 165,1 mm
to certificate # 01336Y15



Free from cracks

Approved by **Mitrokhina O.K.**

Signature

Stamp

