

**忠世高新**  
**ZS ADVANCED**

**MATERIAL CERTIFICATE**

DIN500-49/31B  
Acc. TO EN 10204-3.1

Dated/Vom/Date: 2018/09/07  
We hereby certify that the material described above has been tested; the material complies with the terms of the order confirmation. Inspection and dimensional control meet the article of ASTM B338 without complaints.

Customer/Besteller/Clien: GRANDIS TITANIUM

TTANIUM SEAMLESS TUBE Specification: ASTM B338G.F.9

Size: OD25.4 X AW1.651 X R/L1828.8-3043mm

Lot No: 17D3-33

Quantity (pieces): 189 PCS

Net Weight(kg): 250.8Kgs

Condition: CWSR

Elements	Product Analyse (Composition %)									
	Al	V	Fe	C	N	H	O	TI	Residuals(each)	Residuals(overall)
Spec Value	2.5-3.5	2.0-3.0	Max 0.30	Max 0.08	Max 0.03	Max 0.015	Max 0.25	Remainder	Max 0.10	Max 0.40
Actual Value	2.85	2.15	0.034	0.018	0.0061	0.0012	0.064	Remainder	Max 0.10	Max 0.40

**Mechanical Properties**

Sample No.	Tensile Strength [Mpa]		Yield Strength [Mpa]		Elongation (%)
	Spec. Value	Actual Value	Mila 860	Mila 725	
		946		798	Mila 10
<b>Visual Inspections</b>					
Acceptable	Tube Outside Dia		Tube Inside Dia		Tube Wall Thickness
Acceptable	Acceptable		Acceptable		Acceptable
<b>Tube Straightness</b>					
Acceptable	Tube Length		Tube Roundness		Hydrostatic Test
Acceptable	Acceptable		Acceptable		Acceptable

VICE-MANAGER OF QUALITY DEPARTMENT

