

**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 RL1828.8-3043mm

Lot No: 17D3-33 Quantity (pieces): 189 PCS

Product Analyse (Composition %)

Net Weight(kg): 250.8Kgs

Condition: CWSR

Elements	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.	Spec. Value	Tensile Strength [Mpa]	Yield Strength [Mpa]	Elongation (%)
		Mln 860	Mln 725	Mln 10
	Actual Value	946	798	14.5

Visual Inspections	Tube Outside Dia	Tube Inside Dia	Tube Wall Thickness
Acceptable	Acceptable	Acceptable	Acceptable
Tube Straightness	Tube Length	Tube Roundness	Hydrostatic Test
Acceptable	Acceptable	Acceptable	Acceptable

VICE-MANAGER OF QUALITY DEPARTMENT

