

忠世高新  
ZS ADVANCED

**MATERIAL CERTIFICATE**

DIN500-49/31B  
Acc.TO EN 10204.3.1

Dated/Vorn/Date: 2017/08/16  
We hereby certify that the material described above has been tested;the material complies with the terms of theorder continuation.Inspection and dimensional control meet the article of ASTM B338 without complaints.

Customer/Besteller/Client:

TITANIUM SEAMLESS TUBE Specification:ASTM B338Gr.2

Size: OD22.23mm X WT1.27mm X L2438.4-3048mm

Lot No: 17D3-90 Quantity(piece):116PCS

Product Analyse(Composition%) Net Weight(kg):116.4Kgs

Condition:Full Annealed

Elements	Fe	C	N	H	O	Ti	Residuals(σcn)	Residuals(total)
Spec.Value	Max 0.30	Max 0.08	Max 0.03	Max 0.015	Max 0.25	Remainder	Max 0.10	Max 0.40
Actual Value	0.052	0.017	0.0084	0.0012	0.071	Remainder	Max 0.10	Max 0.40

**Mechanical Properties**

Sample No.	Spec Value	Tensile Strength[Mpa]	Yield Strength[Mpa]	Elongation(%)
		Min345	Min275-Max450	Min20
	Actual Value	436	301	40.5

Visual Inspections	Tube Outside Dia	Tube Inside Dia	Tube Wall Thickness	Tube Length
Acceptable	Acceptable	Acceptable	Acceptable	Acceptable
Tube Straightness	Hydrostatic Test	Flaring Test	Flattening Test	UT
Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

VICE-MANAGER OF QUALITY DEPARTMENT  
ZS Advanced Materials CO.,Ltd.

