



INSPECTION CERTIFICATE acc to EN 10204 3.1

Processkontroll Items AB  
Box 2088  
444 02 STORA HÖGA  
SWEDEN

INSPECTION STAMP  
QA-TUBE

<b>Customer References</b>		<b>Sandvik References</b>	
Rolf Söderström	Customer order 2019-02-12	Order No. 531492	Subs No. 666298 ABSMT No. 300-92692
003-00991	ITEMS	ABSMT Dispatch note 38958/54 C.Code 15	

<b>Material description</b> SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING	<b>Steel/material Designations</b> Sandvik 3R60 EN no 1.4435	AISI TP316/TP316L
<b>Steel making process</b> Electric furnace		

**Technical requirements**  
 ASTM A-213-18 AW, ASME SA-213-ED-17 AW, ASTM A-269-15A  
 NACE MR0175/ISO 15156-3:2015, NACE MR0103/ISO 17945:2015  
 PED 2014/68/EU EN 10216-5 TC1  
 HRB MAX 80

<b>EXTENT OF DELIVERY</b>								
It	Product designation	Heat	Lot	Pieces	Kg	M		
01	THT-3R60-10-1.5 10.00 X 1.50	554380	50403	25	48.0	150.00		
				Total	25	48.0	150.00	
<b>TEST RESULTS</b>								
<b>Chemical composition (weight%)</b>								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
554380	0.022	0.39	1.78	0.031	0.007	17.26	13.15	2.79
	N							
554380	0.035							
<b>Chemical composition, product (weight%)</b>								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
554380	0.021	0.37	1.79	0.031	0.008	17.24	13.14	2.80
	N							
554380	0.037							

**Quality assurance - Sofia Åkesson / Q-Manager**  
**MTC Service / Certificates**

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPA	MPa	MPa	%	%
50403	Rp0.2	Rp1.0	Rm	A	4D
	286	321	581	53	53

**Hardness test**

Lot	Min	Max
	HRB	HRB
50403	75	77

**Following controls/tests have been satisfactorily performed:**

- Flattening test.
- Flaring test
- 100% PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E and EN ISO 3651-2A
- Leak test: Eddy current test acc to EN ISO 10893-1, ASME SA-1016.
- Visual inspection and dimensional control.

**Heat Treatment:**

Solution annealed at a temperature of Min 1040° C and quenched.

**Marking:**

SANDVIK 3R60 ASTM A213/A269 ASME SA213 COLD EN10216-5 TC1 AW EN 1.4435 TP316/3 16L CFA SML NDE 10.00 X 1.50 MM HT 554380 SS LOT 50403 MADE IN SWEDEN \*QA-TUBE \*

The raw material is free from radioactive contamination.

Material free from mercury contamination.

No welding or weld repair.

Approved acc. AD 2000-Merkblatt W0 and certified acc. to Pressure Equipment Directive (2014/68/EU, Annex 1 para 4.3) by TUEV NORD; notified body, reg.no. 0045.

The number of tests are based on the size of the manufacturing lot before cutting to finished lengths.

The delivered products comply with the specifications and requirements of the order.

The material is manufactured according to a Quality system, approved and registered to ISO 9001:2015.

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The certificate is produced with EDP and valid without signature.