



INSPECTION CERTIFICATE acc to  
EN 10 204 3.1

Processkontroll Items AB  
Box 2088  
444 02 STORA HÖGA  
SWEDEN

INSPECTION STAMP  
QA-TUBE

Customer References		Sandvik References		
Rolf Söderström	Customer order 2011-08-11	Order No. 256076	Subs No. 508768	ABSMT Dispatch note 48834/54
003-00991	ITEMS	ABSMT No. 300-49043	C.Code 15	

Material description	Steel/material Designations
SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING	Sandvik SS 3R60 2353 AISI AFNOR TP316/TP316L Z2CND17-13 W.nr DIN 1.4435 X 2 CRNIMO 18 14 3 EN no 1.4435
Steel making process Electric furnace	

Technical requirements
PED/23/EC, EN 10216-5 TC1 SS 219711, DIN 17458 TC1, NFA 49-117-09/85 ASTM A-213-09A AW, ASME SA-213-ED-10 AW, ASTM A-269-08 NACE MR0175/ISO 15156-3:2009, HRB Max 80

EXTENT OF DELIVERY						
It	Product designation	Heat	Lot	Pieces	Kg	M
01	THT-3R60-28-2 28.00 X 2.00	528553	28067	1	8.0	6.00
				Total	1	8.0
					8.0	6.00

TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
528553	0.016	0.37	1.63	0.030	0.008	17.28	13.06	2.52
		N						
528553	0.035							

Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
528553	0.017	0.38	1.62	0.033	0.005	17.29	13.00	2.54
		N						
528553	0.031							

Tensile test at room temperature						
Lot	Yield strength		Tensile strength		Elongation	
	MPa	MPa	MPa	MPa	%	%
28067	Rp0.2	Rp1.0	Rm		A	2"
	265	307	575		59	64

Quality assurance - Ulrik Rodling / QA-manager Tube & Pipe  
MTC Service / Certificates

**Hardness test**

	<b>Min</b>	<b>Max</b>
<b>Lot</b>	<b>HRB</b>	<b>HRB</b>
28067	71	74

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

- Flattening test.
- Ring expansion test
- Flaring test
- PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Intergranular corrosion test acc. to EN ISO3651-2, Method A.
- Leak test: Eddy current test acc to EN 10246-2, ASME SA-1016.
- Visual inspection and dimensional control.

**Heat Treatment:**

Solution annealed and quenched.

**Marking:**

SANDVIK 3R60 ASTM/ASME A/SA-213AW A-269 NFA 49-117 EN 10216-5 TC1 SS 2353-22 W  
NR 1.4435 Z2CND17-13 EN 1.4435 TP316/316L M S PK1 NDE 28.00 X 2.00 MM HT 52855  
3 SS LOT 28067 DIN 2391/EN 10305-1 COLD \*QA-TUBE\*

Approved acc. AD 2000-Merkblatt W0 and certified acc. to  
Pressure Equipment Directive (97/23/EC) 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.

The certificate is produced with EDP and valid without signature.