



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		
710699	Customer order 2011-10-26	Order No. 265624	Subs No. 513006	ABSMT Dispatch note 04930/54
003-00991	ITEMS	ABSMT No. 300-53644	C.Code 29	

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

Technical requirements
ASTM A-213-09A AW, ASME SA-213-ED-10 AW, ASTM A-269-08 NACE MR0175/ISO 15156-3:2009 PED 97/23/EC EN 10216-5 TC1 HRB MAX 80

EXTENT OF DELIVERY						
It	Product designation	Heat	Lot	Pieces	Kg	M
01	THT-3R60-9.53-1.65 9.53 X 1.65	529844	34048	15	29.0	90.00
				Total	15	29.0 90.00

TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
529844	0.017	0.38	1.65	0.028	0.011	17.28	13.07	2.57
		N						
529844	0.034							
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
529844	0.020	0.38	1.64	0.028	0.011	17.32	13.09	2.53
		N						
529844	0.034							

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

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	4D
34048	269	308	551	52	49
	268	306	550	52	50

**Hardness test**

Lot	Min	Max
	HRB	HRB
34048	74	76

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

- Flattening test.
- Flaring test
- PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- 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 EN 10216-5 TC1 EN 1.4435 TP316/316L CO LD SMLS NDE 9.53 X 1.65 MM 3/8'' X 16 BWG/SWG HT 529844 SS LOT 34048 DIN 2391/ EN 10305-1 \*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.