



CERTIFICATE

No. A/11-150393

Rev 00

Date 2011-03-28

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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		
709922	Customer order 2011-03-28	Order No. 238509	Subs No. 500850	ABSMT Dispatch note 34744/54
003-00991	ITEMS	ABSMT No. 300-41027	C.Code 29	

Material description SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING	Steel/material Designations Sandvik AISI 3R60 TP316/TP316L EN no 1.4435
Steel making process 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-3R60-6.35-1.24 6.35 X 1.24	047657	95527	20	19.0	120.00
				Total	20	19.0 120.00

KEY TO HEAT		KEY TO LOT	
Heat Code	Heat No.	Lot Code	Lot No.
047657	526327	95527	355383

TEST RESULTS

Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
047657	0.018	0.40	1.81	0.031	0.007	17.40	13.13	2.52
	N							
047657	0.037							

Chemical composition, product (weight%)

Lot	C	Si	Mn	P	S	Cr	Ni	Mo
95527	0.021	0.39	1.81	0.030	0.006	17.42	13.08	2.51
	N							
95527	0.037							

**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	%
95527	Rp0.2	Rp1.0	Rm	A
	295	326	609	65
	314	361	615	65

Hardness test

Lot	Min	Max
	HRB	HRB
95527	78	79

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 TP 316/TP 316L EN 1.4
435 COLD SMLS NDE 6.35 X 1.24 MM 1/4'' X 18 BWG/SWG HT 526327 SC LOT 355383 DI
N 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.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO 00042180