



CERTIFICATE

No. A/10-953646 Rev 00
Date 2010-04-07 Page 1/2

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	
708517	Customer order 2010-04-07	Order No. 192250	Subs No. 169449
003-00991	ITEMS	ABSMT No. 300-20151	ABSMT Dispatch note 02007/54 C.Code 29

Material description SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING	Steel/material Designations Sandvik AISI 3R60 TP316/TP316L EN no 1.4436/1.4435
Steel making process Electric furnace	

Technical requirements
 ASTM A-213-08 AW, ASME SA-213-ED-07 AD-09B AW, ASTM A-269-08
 NACE MR0175/ISO 15156-3:2003
 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	047330	92966	6	12.0	36.00
				Total	6	12.0 36.00

KEY TO HEAT		KEY TO LOT	
Heat Code	Heat No.	Lot Code	Lot No.
047330	522936	92966	348536

TEST RESULTS

Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
047330	0.017	0.36	1.72	0.028	0.010	17.29	13.13	2.52
	N							
047330	0.046							

Chemical composition, product (weight%)

Lot	C	Si	Mn	P	S	Cr	Ni	Mo
92966	0.019	0.37	1.71	0.031	0.008	17.33	13.20	2.53
	N							
92966	0.048							

Quality assurance - Per Eriksson/ 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
92966	283	314	602	62	60
	280	312	593	58	58

Hardness test

Lot	Min	Max
	HRB	HRB
92966	76	78

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 ASTM A-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 1.4435 COLD SMLS NDE 9.53 X 1.65 MM 3/8" X 16 BWG/SWG HT 522936 SC LOT 348536 DIN 2391 *QA-TUBE*

Approved acc. AD 2000-Merkblatt W0 and certified acc. to Pressure Equipment Directive (97/23/EC) by TUEV NORD GmbH; 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 00038723