



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	
713253	Customer order 2013-09-20	Order No. 345118	Subs No. 557684
003-00991	ITEMS	ABSMT No. 300-92249	ABSMT Dispatch note 07584/54 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-213-11A AW, ASME SA-213-ED-10 AD-11A AW, ASTM A-269-10
 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
03	THT-3R60-6.35-0.89	531343	40391	1	1.0	6.00
	6.35 X .89	534261	51881	2	2.0	12.00
				Total	3	18.00

TEST RESULTS

Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
531343	0.016	0.39	1.66	0.028	0.006	17.26	13.14	2.51
534261	0.018	0.37	1.59	0.029	0.008	17.35	13.11	2.53
N								
531343	0.042							
534261	0.034							

Chemical composition, product (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
531343	0.020	0.41	1.66	0.029	0.005	17.28	13.18	2.52
534261	0.018	0.39	1.59	0.032	0.008	17.43	13.19	2.55
N								
531343	0.040							
534261	0.044							

Quality assurance - Ulrik Rodling / QA-manager
MTC Service / Certificates

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	4D
40391	283	326	560	60	55
51881	278	322	574	58	54

Hardness test

Lot	Min	Max
	HRB	HRB
40391	72	73
51881	71	73

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 at a temperature of Min 1040° C and quenched.

Marking:

SANDVIK 3R60 ASTM/ASME A/SA-213AW A-269 EN 10216-5 TC1 EN 10305-1 SS 2353 EN 1.4435 TP316/316L COLD SMLS NDE 6.35 X 0.89 MM 1/4'' X 20 BWG/SWG HT 531343 SS LOT 40391 MADE BY SANDVIK IN SWEDEN *QA-TUBE*

SANDVIK 3R60 ASTM/ASME A/SA-213AW A-269 EN 10216-5 TC1 EN 10305-1 EN 1.4435 TP 316/316L COLD SMLS NDE 6.35 X 0.89 MM 1/4'' X 20 BWG/SWG HT 534261 SS LOT 51881 MADE BY SANDVIK IN SWEDEN *QA-TUBE*

The raw material is free from radioactive contamination.

Material free from mercury contamination.

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 9001:2008.

The certificate is produced with EDP and valid without signature.