

**CERTIFICATE****No. A/13-358904 Rev 00**
Date 2013-09-05 Page 1/2INSPECTION CERTIFICATE acc to
EN 10 204 3.1Processkontroll Items AB
Box 2088
444 02 STORA HÖGA
SWEDENINSPECTION STAMP
QA-TUBE

Customer References		Sandvik References	
713167	Customer order 2013-09-03	Order No. 343131	Subs No. 556608
003-00991 ITEMS		ABSMT No. 300-91319	ABSMT Dispatch note 06383/54
		C.Code 29	

Material description	Steel/material Designations
SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING	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
01	THT-3R60-25.4-2.11 25.40 X 2.11	536055	16646	1	7.0	6.00
Total				1	7.0	6.00
TEST RESULTS						
Chemical composition (weight%)						
Heat	C	Si	Mn	P	S	Cr
536055	0.021	0.40	1.74	0.028	0.009	17.36
	N					Ni
536055	0.033					13.14
						Mo
						2.53
Chemical composition, product (weight%)						
Heat	C	Si	Mn	P	S	Cr
536055	0.022	0.40	1.74	0.029	0.008	17.35
	N					Ni
536055	0.038					13.11
						Mo
						2.54
Tensile test at room temperature						
Lot	Yield strength		Tensile strength		Elongation	
	MPa	MPa	MPa		%	%
	Rp0.2	Rp1.0	Rm		A	2"
16646	270	311	580		55	59

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

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Hardness test

	Min	Max
Lot	HRB	HRB
16646	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 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 EN 1.4435 TP 316/316L COLD SMLS NDE 25.40 X 2.11 MM 1'' X 14 BWG HT 536055 SS LOT 16646 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.