

**CERTIFICATE****No. A/13-374712 Rev 00**
Date 2013-11-07 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	
713430	Customer order 2013-11-07	Order No. 350269	Subs No. 560669
003-00991 ITEMS		ABSMT No. 300-94757	Dispatch note 11161/54
		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
02	THT-3R60-12.7-1.24 12.70 X 1.24	537093	20127	14	30.0	84.00
Total				14	30.0	84.00
TEST RESULTS						
Chemical composition (weight%)						
Heat	C	Si	Mn	P	S	Cr
537093	0.020	0.44	1.71	0.029	0.009	17.28
	N					Ni
537093	0.038					13.10
						Mo
						2.53
Chemical composition, product (weight%)						
Heat	C	Si	Mn	P	S	Cr
537093	0.019	0.44	1.71	0.029	0.008	17.33
	N					Ni
537093	0.037					13.13
						Mo
						2.50
Tensile test at room temperature						
Yield strength			Tensile strength		Elongation	
MPa			MPa		%	
Rp0.2			Rm		A	
Rp1.0					2"	
Lot						
20127	310	353	579		52	50

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

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Hardness test

	Min	Max
Lot	HRB	HRB
20127	77	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 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 12.70 X 1.24 MM 1/2" X 18 BWG/SWG HT 537093 SS LOT 20127 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.

No unauthorized alterations. The contents of this Inspection Certificate may not be modified or revised in any way without the prior written approval of AB Sandvik Materials Technology. Unauthorized alterations to the Inspection Certificate, including introduction of false, fictitious or fraudulent statements or entries, may be punishable by fines, imprisonment, or both. This Inspection Certificate may be copied only in the manner and for the purposes specified in Section 6 of EN 10204:2004. Contravention of this notice will be prosecuted to the fullest extent of applicable law.

The certificate is produced with EDP and valid without signature.