

**CERTIFICATE****No. A/13-305791 Rev 00**
Date 2013-01-10 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	
712299	Customer order 2013-01-10	Order No. 317251	Subs No. 541916
003-00991 ITEMS		ABSMT No. 300-78837	Dispatch note 39277/54
		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-213-10A 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	534194	51662	2	4.0	12.00	
				Total	2	4.0	12.00
TEST RESULTS							
Chemical composition (weight%)							
Heat	C	Si	Mn	P	S	Cr	Ni
534194	0.015	0.38	1.59	0.029	0.010	17.30	13.13
	N						Mo
534194	0.033						2.53
Chemical composition, product (weight%)							
Heat	C	Si	Mn	P	S	Cr	Ni
534194	0.018	0.41	1.58	0.030	0.009	17.40	13.18
	N						Mo
534194	0.035						2.55
Tensile test at room temperature							
Yield strength		Tensile strength		Elongation			
MPa		MPa		%			
Rp0.2		Rp1.0		A		2"	
Lot		Rm					
51662		269 306		554		51 49	

Quality assurance - Per Eriksson / QA-manager
MTC Service / Certificates

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Hardness test

	Min	Max
Lot	HRB	HRB
51662	73	75

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 min 1040° C.

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 534194 SS LOT 51662 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.