



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 713611	Sandvik References Order No. Subs No. Dispatch note 355732 131857 136658 Suppl. No C.Code 131857 29
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Material description SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING Steel making process Electric furnace	Steel/material Designations Sandvik AISI 3R60 TP316/TP316L EN no 1.4435
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Technical requirements
ASTM A-213-13 AW, ASME SA-213-ED-10 AD-11A AW, ASTM A-269-13
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	Kg	M	
01	THT-3R60-12.7-1.24 12.70 X 1.24	537371	22430	29.8	84.00	
Total				29.8	84.00	

TEST RESULTS
Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
537371	0.020	0.39	1.58	0.030	0.009	17.36	13.18	2.53
	N							
537371	0.036							

Chemical composition, product (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
537371	0.030	0.41	1.56	0.029	0.008	17.33	13.20	2.50
	N							
537371	0.032							

Tensile test at room temperature

Lot	Yield strength		Tensile strength		Elongation	
	MPa	MPa	MPa		%	%
	Rp0.2	Rp1.0	Rm		A	2"
22430	353	395	583		53	49

Quality assurance - Sofia Åkesson / QA-manager
MTC Service / Certificates

**Hardness test**

	Min	Max
Lot	HRB	HRB
22430	76	77

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 537371 SS LOT 224 30 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.

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The certificate is produced with EDP and valid without signature.