



CERTIFICATE

A03/Z02

No. A/19-836406 Rev 00

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A02/Z03

INSPECTION CERTIFICATE acc to EN 10204 3.1

A06

PROCESSKONTROLL ITEMS AB BOX 2088 444 02 STORA HÖGA SWEDEN

INSPECTION STAMP QA-TUBE

Customer References	A07	Sandvik References	A08
7581296/Holmgren	Customer order 2019-07-30	Order No. 540080	Subs No. 673078
003-00991 ITEMS		ABSMT No. 300-99603	ABSMT Dispatch note 01093/54
		C.Code 29	

Material description	B01/B04	Steel/material Designations	B02
SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING		Sandvik 3R60	AISI TP316/TP316L
Steel making process Electric furnace	C70	EN no 1.4435	

Technical requirements	B03
ASTM A-213-18B AW, ASME SA-213-ED-17 AW, ASTM A-269-15A NACE MR0175/ISO 15156-3:-2015, NACE MR0103/ISO 17945-1:-2015 PED 2014/68/EU EN 10216-5 TC1 HRB MAX 80	

EXTENT OF DELIVERY							B07-B13	
It	Product designation	Heat	Lot	Pieces	Kg	M		
01	THT-3R60-12.7-1.24 12.70 X 1.24	555672	57547	15	33.0	90.00		
				Total	15	33.0 90.00		
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
555672	0.017	0.38	1.53	0.032	0.007	17.33	13.09	2.65
	Ti	Al	N					
555672	<0.003	0.005	0.035					
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
555672	0.020	0.38	1.52	0.032	0.006	17.33	13.05	2.65
	N							
555672	0.038							

Quality assurance - Sofia Åkesson / Q-Manager	A05/Z02
MTC Service / Certificates	



Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
57547	290	328	570	55	52

Hardness test

Lot	Min	Max
	HRB	HRB
57547	71	71

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Flaring test
- 100% PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E and EN ISO 3651-2A
- Leak test: Eddy current test acc to EN ISO 10893-1, 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 A213/A269 ASME SA213 COLD EN10216-5 TC1 AW EN 1.4436 EN 1.4435 TP316/316L CFA SML NDE 12.70 X 1.24 MM 1/2'' X 18 BWG/SWG HT 555672 SS LOT 57547 MADE IN SWEDEN *QA-TUBE*

The raw material is free from radioactive contamination.

Material free from mercury contamination.

No welding or weld repair.

Approved acc. AD 2000-Merkblatt W0 and certified acc. to Pressure Equipment Directive (2014/68/EU, Annex 1 para 4.3) 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 9001:2015.

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The certificate is produced with EDP and valid without signature.

