



CERTIFICATE

A03/Z02

No. A/20-870133 Rev 00

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INSPECTION CERTIFICATE acc to EN 10204 3.1

A06

PROCESSKONTROLL ITEMS AB BOX 2088 444 02 STORA HÖGA SWEDEN

INSPECTION STAMP QA-TUBE

<b>Customer References</b> A07	<b>Sandvik References</b> A08
Customer order 2019-12-18	Order No. Subs No. ABSMT Dispatch note
758921	547036 678742 11987/54
003-00991 ITEMS	ABSMT No. C.Code
	300-14886 29

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

<b>Technical requirements</b> 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

<b>EXTENT OF DELIVERY</b>							B07-B13	
It	Product designation	Heat	Lot	Pieces	Kg	M		
01	THT-3R60-6.35-1.24 6.35 X 1.24	420741	21940	15	14.0	90.00		
				Total	15	14.0 90.00		
<b>TEST RESULTS</b>								
<b>Chemical composition (weight%)</b>								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
420741	0.020	0.37	1.58	0.033	0.010	17.21	13.08	2.63
	Co	Ti	Al	N				
420741	0.10	<0.003	0.003	0.036				
<b>Chemical composition, product (weight%)</b>								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
420741	0.017	0.37	1.58	0.031	0.009	17.22	13.09	2.59
	N							
420741	0.038							

<b>Quality assurance - Sofia Åkesson / Q-Manager</b> MTC Service / Certificates	A05/Z02
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**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
Lot	Rp0.2	Rp1.0	Rm	A	4D
21940	325	371	586	52	52

**Hardness test**

Lot	Min	Max
	HRB	HRB
21940	73	75

**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 6.35 X 1.24 MM 1/4'' X 18 BWG/SWG HT 420741 SS LOT 2 1940 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.

