



CERTIFICATE

A03/Z02  
No. A/19-844212 Rev 00  
Date 2019-09-13 Page 1/3

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

<b>Customer References</b>	<b>A07</b>	<b>Sandvik References</b>	<b>A08</b>
758394	Customer order 2019-09-12	Order No. 542279 ABSMT No. 300-11235	Subs No. 674859 C.Code 29
003-00991 ITEMS		ABSMT Dispatch note 03553/54	

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

<b>Technical requirements</b>	<b>B03</b>
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>							<b>B07-B13</b>	
It	Product designation	Heat	Lot	Pieces	Kg	M		
01	THT-3R60-12.7-1.24	556540	15414	2	4.0	12.00		
	12.70 X 1.24	555673	59693	28	60.0	168.00		
	10787							
				<b>Total</b>	<b>30</b>	<b>180.00</b>		
<b>TEST RESULTS</b>								
<b>Chemical composition (weight%)</b>								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
555673	0.016	0.40	1.54	0.032	0.008	17.20	13.09	2.64
556540	0.017	0.41	1.63	0.032	0.010	17.46	13.17	2.64
	Ti	Al	N					
555673	<0.003	0.004	0.040					
556540	<0.003	0.007	0.038					

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



**Chemical composition, product (weight%)**

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
555673	0.023	0.40	1.54	0.033	0.009	17.23	13.04	2.66
556540	0.022	0.43	1.62	0.033	0.011	17.46	13.14	2.65
	<b>N</b>							
555673	0.042							
556540	0.040							

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength MPa Rm	Elongation	
	MPa Rp0.2	MPa Rp1.0		% A	% 2"
15414	323	359	578	48	47
59693	329	369	594	47	46

**Hardness test**

Lot	Min	Max
	HRB	HRB
15414	76	78
59693	74	76

**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 1.44  
35 TP316/316L CFA SML NDE 12.70 X 1.24 MM 1/2'' X 18 BWG/SWG HT 556540 SS LOT  
15414 MADE IN SWEDEN \*QA-TUBE\*

SANDVIK 3R60 ASTM A213/A269 ASME SA213 COLD EN10216-5 TC1 AW EN 1.4436 EN 1.44  
35 TP316/316L CFA SML NDE 12.70 X 1.24 MM 1/2'' X 18 BWG/SWG HT 555673 SS LOT  
59693 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.

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.

