



CERTIFICATE

A03/Z02

No. A/20-895326

Rev 00

Date

2020-06-01

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

Customer References A07 759627 003-00991 ITEMS	Sandvik References A08 <table border="0"> <tr> <td>Order No.</td> <td>Subs No.</td> <td>ABSMT</td> <td>Dispatch note</td> </tr> <tr> <td>554863</td> <td>685150</td> <td>19777/54</td> <td></td> </tr> <tr> <td>ABSMT No.</td> <td>C.Code</td> <td colspan="2"></td> </tr> <tr> <td>300-20678</td> <td>29</td> <td colspan="2"></td> </tr> </table>	Order No.	Subs No.	ABSMT	Dispatch note	554863	685150	19777/54		ABSMT No.	C.Code			300-20678	29		
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554863	685150	19777/54															
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Material description B01/B04 SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING Metallurgical process C70 Electric furnace	Steel/material Designations B02 <table border="0"> <tr> <td>Sandvik</td> <td>AISI</td> </tr> <tr> <td>3R60</td> <td>TP316/TP316L</td> </tr> <tr> <td>EN no</td> <td></td> </tr> <tr> <td>1.4435</td> <td></td> </tr> </table>	Sandvik	AISI	3R60	TP316/TP316L	EN no		1.4435	
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3R60	TP316/TP316L								
EN no									
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Technical requirements B03 ASTM A-213-19 AW, ASME SA-213-ED-19 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-3R60-25.4-1.65	558650	24795	49	289.0	294.00		
	25.40 X 1.65	558919	25490	34	199.0	204.00		
			Total	83	488.0	498.00		
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
558650	0.017	0.42	1.65	0.030	0.008	17.42	13.13	2.64
558919	0.020	0.38	1.68	0.034	0.010	17.27	13.11	2.62
	Co	Ti	Al	N				
558650	0.16	<0.003	0.004	0.037				
558919	0.10	<0.003	0.003	0.040				

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



Chemical composition, product (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
558650	0.017	0.42	1.65	0.031	0.006	17.44	13.17	2.65
558919	0.019	0.39	1.68	0.034	0.005	17.35	13.15	2.63
	N							
558650	0.040							
558919	0.041							

Tensile test at room temperature

Lot	Yield strength		Tensile strength		Elongation	
	MPa	MPa	MPa		%	%
	Rp0.2	Rp1.0	Rm		A	2"
24795	312	350	591		54	55
	325	359	593		49	53
	315	354	594		53	54
25490	272	307	586		51	53
	271	307	590		51	53

Hardness test

Lot	Min	Max
	HRB	HRB
24795	76	78
25490	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 1.4435 TP316/316L CFA SML NDE 25.40 X 1.65 MM 1'' X 16 BWG HT 558650 SS LOT 24795 MADE IN SWEDEN *QA-TUBE*

SANDVIK 3R60 ASTM A213/A269 ASME SA213 COLD EN10216-5 TC1 AW EN 1.4436 EN 1.4435 TP316/316L CFA SML NDE 25.40 X 1.65 MM 1'' X 16 BWG HT 558919 SS LOT 25490 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.

