



CERTIFICATE

A03/Z02

No. **A/21-978968**

Rev **00**

Page

Date

2021-10-28

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

<p>Customer References A07</p> <p>761810 Customer order 2021-10-26</p> <p>003-00991 ITEMS -W</p>	<p>Sandvik References A08</p> <table style="width:100%;"> <tr> <td>Order No.</td> <td>Subs No.</td> <td>SMT Dispatch note</td> </tr> <tr> <td>577378</td> <td>703629</td> <td>48567/54</td> </tr> <tr> <td>SMT No.</td> <td>C.Code</td> <td></td> </tr> <tr> <td>300-37044</td> <td>29</td> <td></td> </tr> </table>	Order No.	Subs No.	SMT Dispatch note	577378	703629	48567/54	SMT No.	C.Code		300-37044	29																																																							
Order No.	Subs No.	SMT Dispatch note																																																																	
577378	703629	48567/54																																																																	
SMT No.	C.Code																																																																		
300-37044	29																																																																		
<p>Material description B01/B04</p> <p>SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING</p> <p>Metallurgical process C70</p> <p>Electric furnace</p>	<p>Steel/material Designations B02</p> <p>Sandvik AISI 3R60 TP316/TP316L</p> <p>EN no 1.4435</p>																																																																		
<p>Technical requirements B03</p> <p>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</p>																																																																			
<p>EXTENT OF DELIVERY B07-B13</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align:left">It</th> <th style="text-align:left">Product designation</th> <th style="text-align:left">Heat</th> <th style="text-align:left">Lot</th> <th style="text-align:left">Pieces</th> <th style="text-align:left">Kg</th> <th style="text-align:left">M</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>THT-3R60-12.7-1.24 12.70 X 1.24</td> <td>041533</td> <td>93676</td> <td>18</td> <td>39.0</td> <td>108.00</td> </tr> <tr> <td colspan="4"></td> <td style="text-align:right">Total</td> <td>18</td> <td>39.0 108.00</td> </tr> </tbody> </table> <p>KEY TO HEAT</p> <table style="width:100%;"> <tr> <td style="width:150px;">Heat Code</td> <td>Heat No.</td> <td style="width:150px;">KEY TO LOT</td> </tr> <tr> <td>041533</td> <td>562722</td> <td>Lot Code Lot No.</td> </tr> <tr> <td></td> <td></td> <td>93676 2036835-11</td> </tr> </table> <p>TEST RESULTS</p> <p>Chemical composition (weight%)</p> <table style="width:100%;"> <thead> <tr> <th>Heat</th> <th>C</th> <th>Si</th> <th>Mn</th> <th>P</th> <th>S</th> <th>Cr</th> <th>Ni</th> <th>Mo</th> </tr> </thead> <tbody> <tr> <td>041533</td> <td>0.017</td> <td>0.39</td> <td>1.61</td> <td>0.033</td> <td>0.008</td> <td>17.34</td> <td>13.10</td> <td>2.64</td> </tr> <tr> <td></td> <td colspan="8" style="text-align:center">N</td> </tr> <tr> <td>041533</td> <td>0.047</td> <td colspan="7"></td> </tr> </tbody> </table>		It	Product designation	Heat	Lot	Pieces	Kg	M	01	THT-3R60-12.7-1.24 12.70 X 1.24	041533	93676	18	39.0	108.00					Total	18	39.0 108.00	Heat Code	Heat No.	KEY TO LOT	041533	562722	Lot Code Lot No.			93676 2036835-11	Heat	C	Si	Mn	P	S	Cr	Ni	Mo	041533	0.017	0.39	1.61	0.033	0.008	17.34	13.10	2.64		N								041533	0.047							
It	Product designation	Heat	Lot	Pieces	Kg	M																																																													
01	THT-3R60-12.7-1.24 12.70 X 1.24	041533	93676	18	39.0	108.00																																																													
				Total	18	39.0 108.00																																																													
Heat Code	Heat No.	KEY TO LOT																																																																	
041533	562722	Lot Code Lot No.																																																																	
		93676 2036835-11																																																																	
Heat	C	Si	Mn	P	S	Cr	Ni	Mo																																																											
041533	0.017	0.39	1.61	0.033	0.008	17.34	13.10	2.64																																																											
	N																																																																		
041533	0.047																																																																		
<p>Quality assurance - Sofia Åkesson / Q-Manager A05/Z02 MTC Service / Certificates</p>																																																																			

A01

AB SANDVIK MATERIALS TECHNOLOGY Reg No. 556234-6832 VAT No. SE556234683201
SE-81181 SANDVIKEN SWEDEN www.materials.sandvik mtc_service.smt@sandvik.com



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

Lot	C	Si	Mn	P	S	Cr	Ni	Mo
93676	0.017	0.40	1.65	0.032	0.006	17.30	12.84	2.50
	N							
93676	0.043							

Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
93676	313	348	613	64	62
	259	295	562	66	62

Hardness test

Lot	Min	Max
	HRB	HRB
93676	72	74

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/ASME A/SA213 A269 COLD EN 10216-5 TC1 AW TP 316/TP 316L EN 1.4435 CFA SML 12.70 X 1.24 MM 1/2'' X 18 BWG/SWG HT 562722 SZ LOT 2036835-11 M ADE BY SANDVIK IN CZECHIA *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 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.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO C-2724/11

