



## CERTIFICATE

No. A/18-722240

Rev 00

Date 2018-02-20

Page 1/3

INSPECTION CERTIFICATE acc to  
EN 10204 3.1

Bandak AS  
Hantovegen 328  
3825 LUNDE I TELEMAR  
NORWAY

INSPECTION STAMP  
QA-TUBE

<b>Customer References</b>  829389/409286  125-06911 SVERDRUP S		<b>Sandvik References</b> Order No. Subs No. ABSMT Dispatch note 506148 646088 15286/54 ABSMT No. C.Code 300-76601 29																																																																									
<b>Material description</b> SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING  <b>Steel making process</b> Electric furnace		<b>Steel/material Designations</b> Sandvik AISI 3R60 TP316/TP316L EN no 1.4435																																																																									
<b>Technical requirements</b> ASTM A-213-17 AW, ASME SA-213-ED-17 AW, ASTM A-269-15A NACE MR0175/ISO 15156-3:2015, NACE MR0103/ISO 17945:2015 PED 2014/68/EU EN 10216-5 TC1 HRB MAX 80																																																																											
<b>EXTENT OF DELIVERY</b> <table border="1"> <thead> <tr> <th>It</th> <th>Product designation</th> <th>Heat</th> <th>Lot</th> <th>Pieces</th> <th>Kg</th> <th>M</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>THT-3R60-9.53-1.65 9.53 X 1.65</td> <td>551039</td> <td>36744</td> <td>34</td> <td>66.0</td> <td>204.00</td> </tr> <tr> <td colspan="4"></td> <td>Total</td> <td>34</td> <td>66.0 204.00</td> </tr> </tbody> </table>				It	Product designation	Heat	Lot	Pieces	Kg	M	01	THT-3R60-9.53-1.65 9.53 X 1.65	551039	36744	34	66.0	204.00					Total	34	66.0 204.00																																																			
It	Product designation	Heat	Lot	Pieces	Kg	M																																																																					
01	THT-3R60-9.53-1.65 9.53 X 1.65	551039	36744	34	66.0	204.00																																																																					
				Total	34	66.0 204.00																																																																					
<b>TEST RESULTS</b> <b>Chemical composition (weight%)</b> <table border="1"> <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>551039</td> <td>0.023</td> <td>0.42</td> <td>1.69</td> <td>0.029</td> <td>0.008</td> <td>17.39</td> <td>13.03</td> <td>2.65</td> </tr> <tr> <td></td> <th>Ti</th> <th>Al</th> <th>N</th> <td colspan="5"></td> </tr> <tr> <td>551039</td> <td>0.020</td> <td>0.006</td> <td>0.041</td> <td colspan="5"></td> </tr> </tbody> </table> <b>Chemical composition, product (weight%)</b> <table border="1"> <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>551039</td> <td>0.023</td> <td>0.43</td> <td>1.69</td> <td>0.031</td> <td>0.006</td> <td>17.35</td> <td>13.01</td> <td>2.66</td> </tr> <tr> <td></td> <th>N</th> <td colspan="7"></td> </tr> <tr> <td>551039</td> <td>0.045</td> <td colspan="7"></td> </tr> </tbody> </table>				Heat	C	Si	Mn	P	S	Cr	Ni	Mo	551039	0.023	0.42	1.69	0.029	0.008	17.39	13.03	2.65		Ti	Al	N						551039	0.020	0.006	0.041						Heat	C	Si	Mn	P	S	Cr	Ni	Mo	551039	0.023	0.43	1.69	0.031	0.006	17.35	13.01	2.66		N								551039	0.045							
Heat	C	Si	Mn	P	S	Cr	Ni	Mo																																																																			
551039	0.023	0.42	1.69	0.029	0.008	17.39	13.03	2.65																																																																			
	Ti	Al	N																																																																								
551039	0.020	0.006	0.041																																																																								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo																																																																			
551039	0.023	0.43	1.69	0.031	0.006	17.35	13.01	2.66																																																																			
	N																																																																										
551039	0.045																																																																										
<b>Quality assurance - Sofia Åkesson / Q-Manager</b> <b>MTC Service / Certificates</b>																																																																											



## CERTIFICATE

No. A/18-722240

Rev 00

Date 2018-02-20

Page 2/3

**Tensile test at room temperature**

	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
Lot	Rp0.2	Rp1.0	Rm	A	4D
36744	298	340	601	55	54

**Hardness test**

	Min	Max
Lot	HRB	HRB
36744	76	78

**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 A/A269 ASME SA213 COLD EN10216-5 TC1 EN10305-1 AW EN 1.4435 TP316/316L CFA SML NDE 9.53 X 1.65 MM 3/8'' X 16 BWG/SWG HT 551039 SS LOT 3674 4 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 9001:2008.

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.

**CERTIFICATE****No. A/18-722240****Rev 00****Date 2018-02-20****Page 3/3**

The certificate is produced with EDP and valid without signature.