

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> <span style="float: right;">A07</span> 763149  Customer order 2022-10-17  003-00991 ITEMS -W	<b>Alleima References</b> <span style="float: right;">A08</span> Order No. Subs No. Dispatch note 591268 714958 24243/54 Suppl. No C.Code 300-47667 29																																																																																																					
<b>Material description</b> <span style="float: right;">B01/B04</span> SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING  <b>Metallurgical process</b> <span style="float: right;">C70</span> Electric furnace	<b>Steel/material Designations</b> <span style="float: right;">B02</span> Alleima AISI 3R60 TP316/TP316L EN no 1.4435																																																																																																					
<b>Technical requirements</b> <span style="float: right;">B03</span> 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																																																																																																						
<b>EXTENT OF DELIVERY</b> <span style="float: right;">B07-B13</span> <table border="1" style="width: 100%; border-collapse: collapse;"> <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-3R60-25.40-1.24</td> <td>042821</td> <td>95347</td> <td>8</td> <td>36.0</td> <td>48.00</td> </tr> <tr> <td></td> <td>25.40 X 1.24</td> <td>043771</td> <td>96197</td> <td>144</td> <td>661.0</td> <td>864.00</td> </tr> <tr> <td></td> <td>23681</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4"></td> <td>Total</td> <td>152</td> <td>697.0 912.00</td> </tr> </tbody> </table> <b>KEY TO HEAT</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Heat Code</th> <th>Heat No.</th> </tr> </thead> <tbody> <tr> <td>042821</td> <td>564419</td> </tr> <tr> <td>043771</td> <td>565137</td> </tr> </tbody> </table> <b>KEY TO LOT</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Lot Code</th> <th>Lot No.</th> </tr> </thead> <tbody> <tr> <td>95347</td> <td>2059549-11</td> </tr> <tr> <td>96197</td> <td>2071932-11</td> </tr> </tbody> </table> <b>TEST RESULTS</b> <b>Chemical composition (weight%)</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <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>042821</td> <td>0.019</td> <td>0.38</td> <td>1.64</td> <td>0.030</td> <td>0.007</td> <td>17.49</td> <td>13.09</td> <td>2.61</td> </tr> <tr> <td>043771</td> <td>0.018</td> <td>0.49</td> <td>1.69</td> <td>0.029</td> <td>0.008</td> <td>17.50</td> <td>13.15</td> <td>2.64</td> </tr> <tr> <td></td> <th>Co</th> <th>Ti</th> <th>Al</th> <th>N</th> <td colspan="4"></td> </tr> <tr> <td>042821</td> <td>0.13</td> <td>0.045</td> <td>0.005</td> <td>0.041</td> <td colspan="4"></td> </tr> <tr> <td>043771</td> <td>0.20</td> <td>&lt;0.003</td> <td>0.003</td> <td>0.036</td> <td colspan="4"></td> </tr> </tbody> </table>		It	Product designation	Heat	Lot	Pieces	Kg	M	01	THT-3R60-25.40-1.24	042821	95347	8	36.0	48.00		25.40 X 1.24	043771	96197	144	661.0	864.00		23681										Total	152	697.0 912.00	Heat Code	Heat No.	042821	564419	043771	565137	Lot Code	Lot No.	95347	2059549-11	96197	2071932-11	Heat	C	Si	Mn	P	S	Cr	Ni	Mo	042821	0.019	0.38	1.64	0.030	0.007	17.49	13.09	2.61	043771	0.018	0.49	1.69	0.029	0.008	17.50	13.15	2.64		Co	Ti	Al	N					042821	0.13	0.045	0.005	0.041					043771	0.20	<0.003	0.003	0.036				
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<b>Quality assurance - Sofia Åkesson / Q-Manager</b> <span style="float: right;">A05/Z02</span> MTC Service / Certificates																																																																																																						



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

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
042821	0.018	0.38	1.65	0.030	0.005	17.57	13.16	2.62
043771	0.018	0.49	1.68	0.031	0.008	17.58	13.20	2.65
	<b>N</b>							
042821	0.050							
043771	0.044							

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
95347	269	306	589	50	51
	274	311	589	50	51
96197	313	349	584	51	51
	315	351	586	52	52

**Hardness test**

Lot	Min	Max
	HRB	HRB
95347	69	74
96197	75	77

**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 25.40 X 1.24 MM 1'' X 18 BWG HT 564419 SZ LOT 2059549-11 MADE BY SANDVIK IN CZECHIA \*QA-TUBE\*

3R60 ASTM/ASME A/SA213 A269 COLD EN 10216-5 TC1 AW TP 316/TP 316L EN 1.4435 CFA SML NDE 25.40 X 1.24 MM 1'' X 18 BWG HT 565137 SZ LOT 2071932-11 MADE BY ALL EIMA 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 Alleima.

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.

**Alleima, formerly Sandvik Materials Technology. During a brand transition period, both Sandvik and Alleima marking on products may exist.**

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO C-3434/40  
C-4945/20

