

**CERTIFICATE**

A03/Z02

**No. A/21-959527****Rev 00**

Date

2021-06-08

Page

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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> 761204/Holmgren  Customer order 2021-05-27  003-00991 ITEMS -W		<b>Sandvik References</b> <span style="float:right">A08</span> <b>Order No.</b> <b>Subs No.</b> <b>SMT Dispatch note</b> 571158        698692        39845/54 <b>SMT No.</b> <b>C.Code</b> 300-32462    15																																																																				
<b>Material description</b> <span style="float:right">B01/B04</span> SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING  <b>Metallurgical process</b> <span style="float:right">C70</span> Electric furnace		<b>Steel/material Designations</b> <span style="float:right">B02</span> <b>Sandvik</b> <b>AISI</b> 3R60                            TP316/TP316L <b>EN no</b> 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-3R60-20-2.5 20.00 X 2.50</td> <td>040762</td> <td>92373</td> <td>12</td> <td>79.0</td> <td>72.00</td> </tr> <tr> <td colspan="4"></td> <td>Total</td> <td>12</td> <td>79.0      72.00</td> </tr> </tbody> </table> <b>KEY TO HEAT</b> <table border="0" style="width:100%;"> <tr> <td style="width:150px;"><b>Heat Code</b></td> <td><b>Heat No.</b></td> <td style="width:150px;"><b>KEY TO LOT</b></td> <td><b>Lot Code</b></td> <td><b>Lot No.</b></td> </tr> <tr> <td>040762</td> <td>561260</td> <td>92373</td> <td>2020048-11</td> <td></td> </tr> </table> <b>TEST RESULTS</b> <b>Chemical composition (weight%)</b> <table border="0" style="width:100%;"> <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> <tr> <td>040762</td> <td>0.018</td> <td>0.38</td> <td>1.64</td> <td>0.030</td> <td>0.010</td> <td>17.34</td> <td>13.09</td> <td>2.63</td> </tr> <tr> <td></td> <th colspan="8">N</th> </tr> <tr> <td>040762</td> <td>0.040</td> <td colspan="7"></td> </tr> </table>				It	Product designation	Heat	Lot	Pieces	Kg	M	01	THT-3R60-20-2.5 20.00 X 2.50	040762	92373	12	79.0	72.00					Total	12	79.0      72.00	<b>Heat Code</b>	<b>Heat No.</b>	<b>KEY TO LOT</b>	<b>Lot Code</b>	<b>Lot No.</b>	040762	561260	92373	2020048-11		Heat	C	Si	Mn	P	S	Cr	Ni	Mo	040762	0.018	0.38	1.64	0.030	0.010	17.34	13.09	2.63		N								040762	0.040							
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<b>Quality assurance - Sofia Åkesson / Q-Manager</b> <span style="float:right">A05/Z02</span> MTC Service / Certificates																																																																						

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
92373	0.018	0.38	1.63	0.027	0.008	17.27	13.01	2.52
	N							
92373	0.045							

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
92373	244	278	580	52	59
	242	275	577	53	58

**Hardness test**

Lot	Min	Max
	HRB	HRB
92373	73	73

**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 20.00 X 2.50 MM . HT 561260 SZ LOT 2020048-11 MADE BY SANDVIK IN CZECH REPUBLIC \*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-1237/10

