



**CERTIFICATE**

A03/Z02

**No. A/20-909908**

**Rev 00**

**Date**

2020-09-10

**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

<p><b>Customer References</b> <span style="float: right;">A07</span></p> <p>759144</p> <p style="text-align: right;"><b>Customer order</b> 2020-02-12</p> <p>003-00991 ITEMS</p>	<p><b>Sandvik References</b> <span style="float: right;">A08</span></p> <table border="0"> <tr> <td><b>Order No.</b></td> <td><b>Subs No.</b></td> <td><b>ABSMT</b></td> <td><b>Dispatch note</b></td> </tr> <tr> <td>549567</td> <td>680921</td> <td>24365/54</td> <td></td> </tr> <tr> <td><b>ABSMT No.</b></td> <td><b>C.Code</b></td> <td colspan="2"></td> </tr> <tr> <td>300-16885</td> <td>15</td> <td colspan="2"></td> </tr> </table>	<b>Order No.</b>	<b>Subs No.</b>	<b>ABSMT</b>	<b>Dispatch note</b>	549567	680921	24365/54		<b>ABSMT No.</b>	<b>C.Code</b>			300-16885	15		
<b>Order No.</b>	<b>Subs No.</b>	<b>ABSMT</b>	<b>Dispatch note</b>														
549567	680921	24365/54															
<b>ABSMT No.</b>	<b>C.Code</b>																
300-16885	15																

<p><b>Material description</b> <span style="float: right;">B01/B04</span></p> <p>SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING</p> <p><b>Metallurgical process</b> <span style="float: right;">C70</span></p> <p>Electric furnace</p>	<p><b>Steel/material Designations</b> <span style="float: right;">B02</span></p> <table border="0"> <tr> <td><b>Sandvik</b></td> <td><b>AISI</b></td> </tr> <tr> <td>3R60</td> <td>TP316/TP316L</td> </tr> <tr> <td><b>EN no</b></td> <td></td> </tr> <tr> <td>1.4435</td> <td></td> </tr> </table>	<b>Sandvik</b>	<b>AISI</b>	3R60	TP316/TP316L	<b>EN no</b>		1.4435	
<b>Sandvik</b>	<b>AISI</b>								
3R60	TP316/TP316L								
<b>EN no</b>									
1.4435									

<p><b>Technical requirements</b></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>	B03
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<b>EXTENT OF DELIVERY</b>							B07-B13	
<b>It</b>	<b>Product designation</b>	<b>Heat</b>	<b>Lot</b>	<b>Pieces</b>	<b>Kg</b>	<b>M</b>		
02	THT-3R60-16-2 16.00 X 2.00	559272	26842	81	336.0	486.00		
				Total	81	336.0	486.00	
<b>TEST RESULTS</b>								
<b>Chemical composition (weight%)</b>								
<b>Heat</b>	<b>C</b>	<b>Si</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Cr</b>	<b>Ni</b>	<b>Mo</b>
559272	0.021	0.36	1.62	0.036	0.008	17.27	13.02	2.61
	<b>Co</b>	<b>N</b>						
559272	0.12	0.043						
<b>Chemical composition, product (weight%)</b>								
<b>Heat</b>	<b>C</b>	<b>Si</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Cr</b>	<b>Ni</b>	<b>Mo</b>
559272	0.019	0.37	1.62	0.036	0.007	17.26	13.03	2.61
	<b>N</b>							
559272	0.044							

<p><b>Quality assurance - Sofia Åkesson / Q-Manager</b> MTC Service / Certificates</p>	A05/Z02
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A01



**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
26842	285	316	588	54	55
	279	312	586	54	54
	290	322	594	52	52
	296	326	600	54	52

**Hardness test**

Lot	Min	Max
	HRB	HRB
26842	70	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 A213/A269 ASME SA213 COLD EN10216-5 TC1 AW EN 1.4435 TP316/3 16L CFA SML NDE 16.00 X 2.00 MM HT 559272 SS LOT 26842 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.

