



**CERTIFICATE**

A03/Z02

**No. A/20-926285**

**Rev**

**00**

**Date**

2020-12-01

**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> 760142/Holmgren  003-00991 ITEMS</p> <p style="text-align: right;"><b>Customer order</b> 2020-10-13</p>	<p><b>Sandvik References</b> <span style="float: right;">A08</span> <b>Order No.</b> <b>Subs No.</b> <b>ABSMT</b> <b>Dispatch note</b> 560627     689806     29154/54 <b>ABSMT No.</b> <b>C.Code</b> 300-24794     11</p>
<p><b>Material description</b> <span style="float: right;">B01/B04</span> SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING</p> <p><b>Metallurgical process</b> <span style="float: right;">C70</span> Electric furnace</p>	<p><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</p>

<p><b>Technical requirements</b> <span style="float: right;">B03</span> ASTM A-632-04 NACE MR0175/ISO 15156-3:-2015, NACE MR0103/ISO 17945-1:-2015 PED 2014/68/EU EN 10216-5 TC1 HRB MAX 80</p>
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<b>EXTENT OF DELIVERY</b> <span style="float: right;">B07-B13</span>								
It	Product designation	Heat	Lot	Pieces	Kg	M		
01	THT-3R60-3.18-0.71 3.18 X .71	048985	96595	3	1.0	18.00		
				Total	3	1.0	18.00	
<b>KEY TO HEAT</b>				<b>KEY TO LOT</b>				
<b>Heat Code</b>	<b>Heat No.</b>		<b>Lot Code</b>		<b>Lot No.</b>			
048985	558864		96595		0002012560			
<b>TEST RESULTS</b>								
<b>Chemical composition (weight%)</b>								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048985	0.017	0.44	1.66	0.033	0.008	17.30	13.10	2.63
	<b>N</b>							
048985	0.038							

**Quality assurance - Sofia Åkesson / Q-Manager** A05/Z02  
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**Chemical composition, product (weight%)**

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048985	0.019	0.42	1.65	0.034	0.006	17.38	13.14	2.66
	N							
048985	0.038							

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
96595	282	317	549	59	49
	265	303	552	57	47

**Hardness test**

Lot	Min	Max
	HRB	HRB
96595	79	80

**Following controls/tests have been satisfactorily performed:**

- Flattening test.
- Flaring test
- 100% PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Leak test: Eddy current test acc to EN 10893-1
- Visual inspection and dimensional control.

**Heat Treatment:**

Solution annealed and quenched.

**Marking:**

SANDVIK 3R60 ASTM A632 EN10216-5 TC1 EN 1.4435 TP316/TP316L CFA SML 3.18 X 0.7  
1 MM 1/8'' X 22 BWG HT 558864 SG LOT 0002012560 \*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.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO 0002012560

