



**CERTIFICATE**

A03/Z02

**No. A/21-951535**

**Rev 00**

**Date**

2021-04-15

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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> 760904  Customer order 2021-03-29  003-00991 ITEMS -W	<b>Sandvik References</b> <span style="float: right;">A08</span> Order No. Subs No. SMT Dispatch note 568392 696343 36746/54 SMT No. C.Code 300-30367 29
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<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> <b>Sandvik</b> <b>AISI</b> 3R60 TP316/TP316L <b>EN no</b> 1.4435
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<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
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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-3R60-12.7-1.24 12.70 X 1.24	040827	92448	15	32.0	90.00
				Total	15	32.0 90.00
<b>KEY TO HEAT</b>			<b>KEY TO LOT</b>			
Heat Code	Heat No.			Lot Code	Lot No.	
040827	560976			92448	2019149-11	
<b>TEST RESULTS</b>						
<b>Chemical composition (weight%)</b>						
Heat	C	Si	Mn	P	S	Cr Ni Mo
040827	0.020	0.38	1.61	0.031	0.010	17.19 13.09 2.63
	N					
040827	0.037					

<b>Quality assurance - Sofia Åkesson / Q-Manager</b> MTC Service / Certificates	A05/Z02
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**Chemical composition, product (weight%)**

Lot	C	Si	Mn	P	S	Cr	Ni	Mo
92448	0.019	0.38	1.56	0.032	0.009	17.29	13.10	2.63
	N							
92448	0.041							

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
92448	264	304	584	59	57
	263	302	583	57	55

**Hardness test**

Lot	Min	Max
	HRB	HRB
92448	77	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 12.70 X 1.24 MM 1/2" X 18 BWG/SWG HT 560976 SZ LOT 2019149-11 M ADE 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-1197/20

