



**CERTIFICATE**

**No. A/15-527188**

**Rev 00**

**Date 2015-09-30**

**Page 1/2**

INSPECTION CERTIFICATE acc to  
EN 10 204 3.1

Processkontroll Items AB  
Box 2088  
444 02 STORA HÖGA  
SWEDEN

INSPECTION STAMP  
QA-TUBE

<b>Customer References</b>		<b>Sandvik References</b>	
752417	Customer order 2015-09-30	Order No. 418532	Subs No. 597697
003-00991	ITEMS	ABSMT No. 300-36016	ABSMT Dispatch note 05879/54 C.Code 21

<b>Material description</b> SEAMLESS STAINLESS COLD FINISHED	<b>Steel/material Designations</b> Sandvik UNS 254 SMO S31254 EN no 1.4547
<b>Steel making process</b> Electric furnace	

**Technical requirements**  
 ASTM A-213-15A AW, ASME SA-213-ED-13 AW, ASTM A-269-13  
 NACE MR0175/ISO 15156-3:2009  
 PED 97/23/EC EN 10216-5 TC1  
 HRB MAX 90

**EXTENT OF DELIVERY**

It	Product designation	Heat	Lot	Pieces	Kg	M
02	THT-254SMO-12.7-1.65 12.70 X 1.65	541619	45400	1	3.0	6.00
				Total	1	3.0 6.00

**TEST RESULTS**  
**Chemical composition (weight%)**

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
541619	0.009	0.47	0.50	0.023	0.0007	19.99	17.91	6.05
	Cu	N						
541619	0.58	0.208						

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

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
541619	0.010	0.47	0.49	0.024	<0.001	20.06	17.80	6.09
	Cu	N						
541619	0.59	0.20						

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength		Elongation	
	MPa	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"	
45400	405	453	721	50	50	

**Quality assurance - Lars-Åke Bergqvist / QA-manager**  
**MTC Service / Certificates**

**Hardness test**

Lot	HRB	
45400	88	87
	87	89

**Corrosion test**

According to ASTM G-48A, 50 °C for 24 hours.  
No pitting corrosion found at 20x enlargement.

**Specimen weight loss**

Lot	g/m <sup>2</sup>
45400	1.97

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

- Flattening test.
- Flaring test
- PMI-test.
- Leak test: Eddy current test acc to EN 10246-2, ASME SA-1016.
- Visual inspection and dimensional control.

**Heat Treatment:**

Solution annealed and quenched.

**Marking:**

SANDVIK 254 SMO ASTM/ASME A/SA-213AW A-269 EN 10216-5 TC1 COLD AW UNS S31254 E  
N 1.4547 CFA SMLS NDE 12.70 X 1.65 MM 0.500 X 0.065 HT 541619 SS LOT 45400 MAD  
E BY SANDVIK IN SWEDEN \*QA-TUBE\*

The raw material is free from radioactive contamination.

Material free from mercury contamination.

Approved acc. AD 2000-Merkblatt W0 and certified acc. to  
Pressure Equipment Directive (97/23/EC) 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 9001:2008.

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  
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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.