



**CERTIFICATE**

**No. A/14-462049**

**Rev 00**

**Date 2014-12-03**

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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>	
751279	Customer order 2014-12-03	Order No. 389895	Subs No. 582522
003-00991	ITEMS	ABSMT No. 300-22780	ABSMT Dispatch note 36668/54
		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-213-13 AW, ASME SA-213-ED-10 AD-11A 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
01	THT-254SMO-6.35-0.89 6.35 X .89	534535	22411	3	2.0	18.00
				Total	3	2.0 18.00

**TEST RESULTS**

**Chemical composition (weight%)**

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
534535	0.012	0.46	0.65	0.021	<0.0005	19.85	17.82	6.05
	Cu	N						
534535	0.56	0.19						

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

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
534535	0.013	0.46	0.64	0.022	<0.001	20.01	17.75	6.07
	Cu	N						
534535	0.56	0.19						

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

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	4D
22411	354	395	703	55	53
	353	396	704	57	54

**Hardness test**

22411	83	83
	82	82

**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>
22411	0.07

**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 UNS S31254 EN 1.4547  
COLD SMLS NDE 6.35 X 0.89 MM 0.250 X 0.035 HT 534535 SS LOT 22411 MADE 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.



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The certificate is produced with EDP and valid without signature.