



**CERTIFICATE**

**No. A/13-353666**

**Rev 00**

**Date 2013-08-13**

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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>		
713073	Customer order 2013-08-08	Order No. 340736	Subs No. 555144	ABSMT Dispatch note 04890/54
003-00991	ITEMS	ABSMT No. 300-90051	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-213-11A AW, ASME SA-213-ED-10 AD-11A AW, ASTM A-269-10  
 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-12.7-2.11 12.70 X 2.11	535805	16125	4	13.0	24.00
				Total	4	13.0 24.00

**TEST RESULTS**

**Chemical composition (weight%)**

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
535805	0.008	0.46	0.60	0.020	0.0005	20.15	17.80	6.03
	Cu	N						
535805	0.58	0.20						

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

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
535805	0.011	0.47	0.59	0.020	<0.001	20.24	17.76	6.04
	Cu	N						
535805	0.57	0.20						

**Quality assurance - Ulrik Rodling / 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	2"
16125	350	389	697	54	54
	349	389	691	55	54

**Hardness test**

Lot	HRB	
16125	83	86
	85	86
	86	86
	84	84
	86	87
	84	85

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

- Flattening test.
- Flaring test
- PMI-test.
- Intergranular corrosion test acc. to ISO 3651-2 C
- Corrosion test acc to ASTM G48A, 50 degrees C/24H.
- 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 A-269 . UNS S31254 COLD SMLS NDE 12.70 X 2.11 MM 0.500 X 0.083 HT 535805 SS LOT 16125 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.

The certificate is produced with EDP and valid without signature.