

**CERTIFICATE****No. A/14-394651 Rev 00**
Date 2014-02-03 Page 1/2INSPECTION CERTIFICATE acc to
EN 10 204 3.1Processkontroll Items AB
Box 2088
444 02 STORA HÖGA
SWEDENINSPECTION STAMP
QA-TUBE

Customer References		Sandvik References		
713704	Customer order 2014-02-03	Order No. 358767	Subs No. 565402	ABSMT Dispatch note 16618/54
003-00991	ITEMS	ABSMT No. 300-98534	C.Code 21	

Material description	Steel/material Designations
SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING	Sandvik UNS 254 SMO S31254 EN no 1.4547
Steel making process 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
02	THT-254SMO-10-1.5 10.00 X 1.50	535642	18569	5	9.0	30.00
				Total	5	9.0 30.00

TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
535642	0.009	0.42	0.46	0.020	<0.0005	20.09	17.83	6.06
	Cu	N						
535642	0.53	0.20						

Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
535642	0.008	0.43	0.45	0.021	<0.001	20.15	17.81	6.13
	Cu	N						
535642	0.52	0.19						

Tensile test at room temperature						
Lot	Yield strength		Tensile strength		Elongation	
	MPa	MPa	MPa	MPa	%	%
18569	Rp0.2	Rp1.0	Rm		A	2"
	392	430	704		51	49

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

**Hardness test**

Lot	HRB	
18569	89	90
	90	90

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Flaring test
- PMI-test.
- 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 10.00 X 1.50 MM 0.394 X 0.059 HT 535642 SS LOT 18569 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.

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.