

**CERTIFICATE****No. A/18-719131****Rev 00****Date 2018-02-06****Page 1/3**INSPECTION CERTIFICATE acc to
EN 10204 3.1Processkontroll Items AB
Box 2088
444 02 STORA H@GA
SWEDENINSPECTION STAMP
QA-TUBE

Customer References		Sandvik References	
756010	Customer order 2018-02-02	Order No. 504892	Subs No. 645208
003-00991 ITEMS		ABSMT No. 300-75952	ABSMT Dispatch note 14303/54
		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+AOD	

Technical requirements
ASTM A-213-15A AW, ASME SA-213-ED-13 AW, ASTM A-269-14 NACE MR0175/ISO 15156-3:2015, PED 2014/68/EU EN 10216-5 TC1 NORSOK M-630 ED.6, NORSOK MDS R18 REV.5 HRB MAX 90

EXTENT OF DELIVERY								
It	Product designation	Heat	Lot	Pieces	Kg	M		
02	THT-254SMO-12-1 12.00 X 1.00	543458	02190	1	2.0	6.00		
				Total	1	2.0	6.00	
KEY TO LOT								
				Lot Code	Lot No.			
				02190	50725			
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
543458	0.010	0.46	0.52	0.019	0.0005	20.13	17.83	6.05
	Cu	N						
543458	0.63	0.200						
Quality assurance - Sofia Åkesson / Q-Manager MTC Service / Certificates								

**CERTIFICATE**

No. A/18-719131 Rev 00
Date 2018-02-06 Page 2/3

Chemical composition, product (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
543458	0.013	0.48	0.52	0.021	<0.001	20.23	17.85	6.09
	Cu	N						
543458	0.63	0.20						

Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
02190	461	518	756	47	42

Hardness test

Lot	HRB	
02190	85	87
	86	86

Corrosion test according to ASTM G-48A, 50°C for 24 hours.

In delivery condition.

No pitting corrosion found at 20x enlargement.

Specimen weight loss

Lot	g/m ²
02190	0.19

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Flaring test
- 100% PMI-test.
- Leak test: Eddy current test acc to EN ISO 10893-1, ASME SA-1016.
- Visual inspection and dimensional control.

Heat Treatment:

Bright annealed at min 1150°C/0.5 minutes and quenched in water/forced gas.

Marking:

SANDVIK 254 SMO ASTM A213/A269 ASME SA213 COLD EN10216-5 TC1 AW UNS S31254 EN 1.4547 CFA SML NDE 12.00 X 1.00 MM 0.472 X 0.039 HT 543458 SS LOT 50725 MADE IN SWEDEN *QA-TUBE*

The raw material is free from radioactive contamination.

Material free from mercury contamination.

No welding or weld repair.

NORSOK M-650 QTR NO: QTR6Mo_BA215

NORSOK M-650 QTR NO: QTR6Mo_BA

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.



CERTIFICATE

No. A/18-719131 Rev 00
Date 2018-02-06 Page 3/3

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.