

**CERTIFICATE****No. A/14-397011****Rev 00****Date 2014-02-11****Page 1/2**INSPECTION CERTIFICATE acc to  
EN 10 204 3.1Processkontroll Items AB  
Box 2088  
444 02 STORA HÖGA  
SWEDENINSPECTION STAMP  
QA-TUBE**Customer References**Customer  
order  
2014-01-23  
  
003-00991 ITEMS**Sandvik References**Order No. Subs No. ABSMT Dispatch note  
357718 564846 17213/54  
ABSMT No. C.Code  
300-98084 15**Material description**SEAMLESS STAINLESS COLD FINISHED  
HYDRAULIC TUBING**Steel making process**  
Electric furnace**Steel/material Designations**Sandvik AISI  
3R60 TP316/TP316L  
EN no  
1.4435**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 80**EXTENT OF DELIVERY**

It	Product designation	Heat	Lot	Pieces	Kg	M
01	THT-3R60-25-2 25.00 X 2.00	538219	24630	8	54.0	48.00
Total				8	54.0	48.00

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

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
538219	0.020	0.39	1.66	0.031	0.007	17.33	13.15	2.53
N								
538219	0.043							

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

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
538219	0.020	0.39	1.66	0.030	0.007	17.30	13.07	2.51
N								
538219	0.040							

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

**Tensile test at room temperature**

	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
Lot	Rp0.2	Rp1.0	Rm	A	2"
24630	310	350	594	56	62
	309	348	587	54	58

**Hardness test**

Lot	Min	Max
	HRB	HRB
24630	76	78

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

- Flattening test.
- Flaring test
- PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Leak test: Eddy current test acc to EN 10246-2, ASME SA-1016.
- Visual inspection and dimensional control.

**Heat Treatment:**

Solution annealed at a temperature of Min 1040° C and quenched.

**Marking:**

SANDVIK 3R60 ASTM/ASME A/SA-213AW A-269 EN 10216-5 TC1 EN 10305-1 EN 1.4435 TP 316/316L COLD SMLS NDE 25.00 X 2.00 MM HT 538219 SS LOT 24630 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.