



INSPECTION CERTIFICATE acc to
EN 10 204 3.1

Processkontroll Items AB
Box 2088
444 02 STORA HÖGA
SWEDEN

INSPECTION STAMP
QA-TUBE

Customer References		Sandvik References	
750700	Customer order 2014-07-14	Order No. 376092	Subs No. 575062
003-00991 ITEMS		ABSMT No. 300-16588	ABSMT Dispatch note 27571/54 C.Code 15

Material description	Steel/material Designations
SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING	Sandvik AISI 3R60 TP316/TP316L EN no 1.4435
Steel making process 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 80

EXTENT OF DELIVERY						
It	Product designation	Heat	Lot	Pieces	Kg	M
02	THT-3R60-6-1.5 6.00 X 1.50	536139	30011	10	10.0	60.00
Total				10	10.0	60.00
TEST RESULTS						
Chemical composition (weight%)						
Heat	C	Si	Mn	P	S	Cr
536139	0.017	0.39	1.64	0.027	0.008	17.40
	N					Ni
536139	0.036					13.17
						Mo
						2.53
Chemical composition, product (weight%)						
Heat	C	Si	Mn	P	S	Cr
536139	0.020	0.39	1.63	0.028	0.008	17.37
	N					Ni
536139	0.037					13.09
						Mo
						2.53
Tensile test at room temperature						
Yield strength		Tensile strength		Elongation		
MPa		MPa		%		
Lot	Rp0.2	Rp1.0	Rm	A	4D	
30011	267	313	571	59	59	
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"
98956	247	290	542	60	53
	241	287	543	60	52

Hardness test

	Min	Max
Lot	HRB	HRB
98956	71	73

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
- Visual inspection and dimensional control.

Heat Treatment:

Solution annealed and quenched.

Marking:

SANDVIK 3R60 ASTM A-632 TP 316/316L EN 10216-5 TC1 MS PK1 WNR 1.4435 EN 1.4435 COLD SMLS 3.00 X 0.70 MM **SAKNAS** HT 536843 SG LOT 176791 *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.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO 43852