

**CERTIFICATE****No. A/12-291206 Rev 00**
Date 2012-11-06 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	
712063	Customer order 2012-11-06	Order No. 310876	Subs No. 538298
003-00991 ITEMS		ABSMT No. 300-75633	Dispatch note 35046/54
		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-213-10A 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 80	

EXTENT OF DELIVERY						
It	Product designation	Heat	Lot	Pieces	Kg	M
01	THT-3R60-8-2 8.00 X 2.00	533038	46359	3	5.0	18.00
Total				3	5.0	18.00
TEST RESULTS						
Chemical composition (weight%)						
Heat	C	Si	Mn	P	S	Cr
533038	0.017	0.42	1.72	0.029	0.007	17.35
	N					Ni
533038	0.036					13.14
						Mo
						2.52
Chemical composition, product (weight%)						
Heat	C	Si	Mn	P	S	Cr
533038	0.020	0.43	1.72	0.030	0.005	17.38
	N					Ni
533038	0.034					13.11
						Mo
						2.52
Tensile test at room temperature						
Yield strength			Tensile strength		Elongation	
MPa			MPa		%	
Rp0.2 Rp1.0			Rm		A 4D	
Lot 46359			266 299		58 61	

Quality assurance - Per Eriksson / QA-manager
MTC Service / Certificates

**CERTIFICATE****No. A/12-291206****Rev 00****Date 2012-11-06****Page 2/2****Hardness test**

	Min	Max
Lot	HRB	HRB
46359	70	72

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 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 8.00 X 2.00 MM HT 533038 SS LOT 46359 MADE BY SANDVIK I N 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.