

**CERTIFICATE****No. A/12-218612 Rev 00**
Date 2012-01-12 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 710940 003-00991 ITEMS Customer order 2011-12-27		Sandvik References Order No. Subs No. ABSMT Dispatch note 273216 516591 11528/54 ABSMT No. C.Code 300-57143 15																																																																									
Material description SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING Steel making process Electric furnace		Steel/material Designations Sandvik SS 3R60 2353 AISI AFNOR TP316/TP316L Z2CND17-13 W.nr DIN 1.4435 X 2 CRNIMO 18 14 3 EN no 1.4435																																																																									
Technical requirements PED/23/EC, EN 10216-5 TC1 SS 219711, DIN 17458 TC1, NFA 49-117-09/85 ASTM A-213-09A AW, ASME SA-213-ED-10 AD-11A AW, ASTM A-269-08 NACE MR0175/ISO 15156-3:2009, HRB Max 80																																																																											
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Quality assurance - Per Eriksson / QA-manager MTC Service / Certificates																																																																											

**CERTIFICATE****No. A/12-218612****Rev 00****Date 2012-01-12****Page 2/2****Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
37124	285	327	549	56	53
37127	302	340	555	58	54

Hardness test

Lot	Min	Max
	HRB	HRB
37124	74	77
37127	73	75

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Flaring test
- PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Intergranular corrosion test acc. to EN ISO3651-2, Method A.
- 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 SS 2353 EN 1.4435 TP316/316L M S PK1 NDE 12.00 X 1.00 MM HT 530660 SS LOT 37124 COLD MADE BY SANDVIK IN SWEDEN *QA-TUBE*

SANDVIK 3R60 ASTM/ASME A/SA-213AW A-269 EN 10216-5 TC1 EN 10305-1 SS 2353 EN 1.4435 TP316/316L M S PK1 NDE 12.00 X 1.00 MM HT 530660 SS LOT 37127 COLD MADE BY SANDVIK IN SWEDEN *QA-TUBE*

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.

The certificate is produced with EDP and valid without signature.