



CERTIFICATE

No. A/13-373250

Rev 00

Date 2013-10-31

Page 1/2

INSPECTION CERTIFICATE acc to EN 10 204 3.1

Processkontroll Items AB
Box 2088
444 02 STORA HÖGA
SWEDEN

INSPECTION STAMP
QA-TUBE

Table with 2 columns: Customer References and Sandvik References. Includes order numbers, customer order details, and Sandvik order/subs numbers.

Table with 2 columns: Material description and Steel/material Designations. Includes material type (SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING) and designations (Sandvik, AISI, 3R60, TP316/TP316L, EN no 1.4435).

Technical requirements
ASTM A-213-11A 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

Table titled 'EXTENT OF DELIVERY' showing columns for It, Product designation, Heat, Lot, Pieces, Kg, and M. Includes a total row.

Table titled 'TEST RESULTS' for 'Chemical composition (weight%)'. Columns include Heat, C, Si, Mn, P, S, Cr, Ni, Mo. Shows values for heat 536509.

Table titled 'Chemical composition, product (weight%)'. Columns include Heat, C, Si, Mn, P, S, Cr, Ni, Mo. Shows values for heat 536509.

Table titled 'Tensile test at room temperature'. Columns include Lot, Yield strength (MPa), Tensile strength (MPa), and Elongation (%).

Quality assurance - Ulrik Rodling / QA-manager
MTC Service / Certificates

**Hardness test**

	<b>Min</b>	<b>Max</b>
<b>Lot</b>	<b>HRB</b>	<b>HRB</b>
18720	78	80

**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 8.00 X 1.00 MM HT 536509 SS LOT 18720 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.

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.