

CERTIFICATE

No. A/14-394651

Date 2014-02-03 Page 1/2

Rev 00

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

713704 order

Customer

2014-02-03

003-00991 ITEMS Sandvik References

Order No. Subs No. ABSMT Dispatch note

358767 565402 16618/54

ABSMT No. C.Code

300-98534 21

Material description

SEAMLESS STAINLESS COLD FINISHED

HYDRAULIC TUBING

Steel/material Designations

Sandvik UNS 254 SMO S31254

EN no 1.4547

Steel making process

Electric furnace

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 90

EXTENT OF DELIVERY

It Product designation Pieces Heat Lot Kg M 9.0 535642 18569 30.00

02 THT-254SMO-10-1.5 10.00 X 1.50

> Total 5 9.0

TEST RESULTS

Chemical composition (weight%)

C Si Mn P S CrΝi Mo 535642 0.009 0.42 0.46 0.020 <0.0005 20.09 17.83 6.06

> Cu \mathbf{N}

535642 0.53 0.20

Chemical composition, product (weight%)

Heat C Si Mn P S \mathtt{Cr} Νi Mo 0.021 535642 0.008 0.45 <0.001 20.15 17.81 6.13 0.43

> Cu N

535642 0.52 0.19

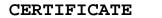
Tensile test at room temperature

Yield strength Tensile strength Elongation

MPa MPa MPa % %

2" Lot Rp0.2 Rp1.0 RmΑ 18569 392 430 704 51 49

Quality assurance - Lars-Ake Bergqvist / QA-manager MTC Service / Certificates



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Hardness test

Lot HRB

18569 89 90 90 90

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Flaring test
- PMI-test.
- Corrosion test acc to ASTM G48A, 50 degrees C/24H.
- 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 254 SMO ASTM A-269 . UNS S31254 COLD SMLS NDE 10.00 X 1.50 MM 0.394 X 0.059 HT 535642 SS LOT 18569 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.