

## CERTIFICATE

No. A/14-417623

Date 2014-05-06 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

Customer

order

2014-05-06

003-00991 ITEMS

Sandvik References

Order No. Subs No. ABSMT Dispatch note

368813 571121 23004/54

ABSMT No. C.Code 300-13291 68

Material description

SEAMLESS STAINLESS COLD FINISHED

PIPE

750434

Steel/material Designations

Sandvik ATST

3R12 TP304/TP304L

EN no 1.4306

Steel making process

Electric furnace

Technical requirements

ASTM A-312-12A, ASME SA-312-ED-10 AD-11A

NACE MR0175/ISO 15156-3:2009

PED 97/23/EC EN 10216-5 TC1

TOLERANCES ACC. ASTM A312

EXTENT	OF	DELIVERY

Ιt	Product	designation	Heat	Lot	Pieces	Kg	M
01	TST-3R12-	-1/2-SCH40	536231	17805	1	7.0	6.08

21.34 X 2.77

Total 1 7.0 6.08

60

64

TEST RESULTS

17805

Chemical composition (weight%)

C Si Mn Ρ S  $\mathtt{Cr}$ Νi Mo 0.008 536231 0.006 0.40 1.29 0.027 18.32 10.16 0.34

Co  $\mathtt{Cu}$ N

536231 0.097 0.29 0.052

Chemical composition, product (weight%)

Heat C Si Mn P S  $\mathtt{Cr}$ Νi Mo 0.008 0.029 536231 0.007 1.28 18.35 10.19 0.34 0.40

> Co Cu N

> > 270

536231 0.093 0.29 0.055

Tensile test at room temperature

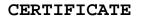
227

Yield strength Tensile strength Elongation

597

MPa MPa MPa % % Rp0.2 Rp1.0 2" Lot RmΑ

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



No. A/14-417623 Rev 00
Date 2014-05-06 Page 2/2



Hardness test

 Min
 Max

 Lot
 HRB
 HRB

 17805
 76
 77

## 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 and ASTM Pr.E426 with drilled hole as reference standard in lieu of hydrostatic test.
- Visual inspection and dimensional control.

## Heat Treatment:

Solution annealed and quenched.

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.