

CERTIFICATE

No. A/14-414773

Date 2014-04-23 Page 1/2

Rev 00

INSPECTION CERTIFICATE acc to EN 10 204 3.1

Processkontroll Items AB Box 2088 444 02 STORA HÖGA

INSPECTION STAMP QA-TUBE

Customer References

Customer

order

2014-04-16

003-00991 ITEMS

750374

Sandvik References

Order No. Subs No. ABSMT Dispatch note

367093 570177 22126/54

ABSMT No. C.Code

300-12482 11

SWEDEN

Material description

SEAMLESS STAINLESS COLD FINISHED

HYDRAULIC TUBING

Steel/material Designations

Sandvik AISI

3R60 TP316/TP316L

Steel making process

Electric furnace

Technical requirements

ASTM A-632-04

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-3R60-3-0.7 047992 98956 4 1.0 24.00

3.00 X .70

Total 4 1.0 24.00

KEY TO HEAT KEY TO LOT

Heat Code Heat No. Lot Code Lot No.

047992 536843 98956 176791

TEST RESULTS

Chemical composition (weight%)

Heat C Si Mn P S Cr Ni Mo

047992 0.019 0.38 1.63 0.026 0.008 17.31 13.13 2.52

N

047992 0.041

Chemical composition, product (weight%)

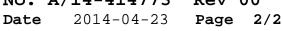
Heat C Si Mn P S \mathtt{Cr} Νi Mo 0.018 0.37 0.027 0.007 17.30 047992 1.62 13.12 2.51

N

047992 0.038

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







Tensile test at room temperat	iture
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	Yield	strength	Tensile strength	Elon	gation
	MPa	MPa	MPa	%	%
Lot	Rp0.2	Rp1.0	Rm	A	2"
98956	247	290	542	60	53
	241	287	543	60	52

Hardness test

	Min	Max	
Lot	HRB	HRB	
98956	71	73	

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
- Visual inspection and dimensional control.

Heat Treatment:

Solution annealed and quenched.

Marking:

SANDVIK 3R60 ASTM A-632 TP 316/316L EN 10216-5 TC1 MS PK1 WNR 1.4435 EN 1.4435 COLD SMLS 3.00 X 0.70 MM **SAKNAS** HT 536843 SG LOT 176791 *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.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO 43852