

CERTIFICATE

No. A/18-757219

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Rev 00

INSPECTION CERTIFICATE acc to EN 10204 3.1

Processkontroll Items AB Box 2088 444 02 STORA H@GA

SWEDEN INSPECTION STAMP

QA-TUBE

Customer References

Sandvik References

Customer Order No. Subs No. ABSMT Dispatch note

756643 518500 655677 order 25507/54

ABSMT No. C.Code 2018-07-10 300-83619 15

003-00991 ITEMS

Steel/material Designations

Material description SEAMLESS STAINLESS COLD FINISHED Sandvik ATST

HYDRAULIC TUBING 3R60 TP316/TP316L

> EN no 1.4435

Steel making process

Electric furnace

Technical requirements

ASTM A-213-17 AW, ASME SA-213-ED-17 AW, ASTM A-269-15A NACE MR0175/ISO 15156-3:2015, NACE MR0103/ISO 17945:2015

PED 2014/68/EU EN 10216-5 TC1

HRB MAX 80

EXTENT OF DELIVERY					
It Product designation	Heat	Lot	Pieces	Kg	M
02 THT-3R60-6-1 6.00 X 1.00	552577	42763	100	76.0	600.00
			100	5 60	

100 76.0 Total 600.00

TEST RESULTS

Chemical composition (weight%)

Heat C Si Mn P \mathtt{Cr} Νi Mo S 0.032 0.009 17.39 552577 0.021 0.34 1.64 13.18 2.62

N 552577 0.036

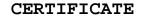
Chemical composition, product (weight%)

Heat C Si Mn P S \mathtt{Cr} Νi Mo 0.35 0.033 0.005 552577 0.030 1.65 17.46 13.23 2.64

N

552577 0.037

> Quality assurance - Sofia Akesson / Q-Manager MTC Service / Certificates



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Tensile test at room temperature

Yield strength Tensile strength Elongation MPa MPAMPa % Rp0.2 Rp1.0 Rm4D Lot Α 42763 293 334 589 51 51

Hardness test

Max Min HRB HRB Lot 42763 65 70

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Flaring test
- 100% PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E and EN ISO 3651-2A
- Leak test: Eddy current test acc to EN ISO 10893-1, 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 A213/A269 ASME SA213 COLD EN10216-5 TC1 AW EN 1.4435 TP316/3 16L CFA SML NDE 6.00 X 1.00 MM HT 552577 SS LOT 42763 MADE IN SWEDEN *QA-TUBE*

The raw material is free from radioactive contamination.

Material free from mercury contamination.

No welding or weld repair.

Approved acc. AD 2000-Merkblatt WO and certified acc. to Pressure Equipment Directive (2014/68/EU, Annex 1 para 4.3) 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 9001:2015.

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.