



CERTIFICATE

No. A/17-669417

Rev 00

Date 2017-06-28

Page 1/3

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	
754938	Customer order 2017-05-12	Order No. 478389	Subs No. 629830
003-00991	ITEMS	ABSMT No. 300-63297	C.Code 46
		ABSMT Dispatch note 47797/54	

Material description SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING	Steel/material Designations Sandvik SS 3R60 2353 AISI EN no TP316/TP316L 1.4435
Steel making process Electric furnace	

Technical requirements
 SS 219713
 Condition No -24
 ASTM A-213-17 AW, ASME SA-213-ED-15 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
01	THT-3R60-6-1 6.00 X 1.00	048387	26532	60	45.0	360.00
				Total	60	45.0 360.00

KEY TO HEAT
 Heat Code 048387 Heat No. 546038

TEST RESULTS
Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048387	0.016	0.43	1.54	0.032	0.0080	17.28	13.07	2.61
	N							
048387	0.038							

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

**Chemical composition, product (weight%)**

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048387	0.015	0.44	1.54	0.030	0.0060	17.40	13.07	2.61
	N							
048387	0.034							

Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation
	MPa	MPa	MPa	%
Lot	Rp0.2	Rp1.0	Rm	A
26532	278	313	577	51

Hardness test

Lot	HRB	
26532	68	68
	70	70

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Flaring test
- PMI-test.
- Intergranular corrosion test acc. to EN ISO3651-2, Method A.
- Leak test: Eddy current test acc to SS 114301/114305 E1, EN 10893-1 and ASME SA-1016
- Visual inspection and dimensional control.

Heat Treatment:

Solution annealed and quenched.

Marking:

SANDVIK 3R60 ASTM A213/A269 ASME SA213 COLD EN10216-5 TC1 EN10305-1 AW EN 1.44 35 TP316/316L CFA SML NDE 6.00 X 1.00 MM HT 546038 SS LOT 26532 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 W0 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 9001:2008.



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.