



CERTIFICATE

A03/Z02

No. A/19-832157 Rev 00

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A02/Z03

INSPECTION CERTIFICATE acc to EN 10204 3.1

A06

PROCESSKONTROLL ITEMS AB BOX 2088 444 02 STORA HÖGA SWEDEN

INSPECTION STAMP QA-TUBE

Customer References A07	Sandvik References A08
758114	Order No. Subs No. ABSMT Dispatch note
Customer order 2019-07-01	538782 672084 48451/54
003-00991 ITEMS	ABSMT No. C.Code
	300-98475 15

Material description B01/B04	Steel/material Designations B02
SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING	Sandvik AISI 3R60 TP316/TP316L
	EN no 1.4435
Steel making process Electric furnace	C70

Technical requirements B03
ASTM A-213-18B AW, ASME SA-213-ED-17 AW, ASTM A-269-15A
NACE MR0175/ISO 15156-3:-2015, NACE MR0103/ISO 17945-1:-2015
PED 2014/68/EU EN 10216-5 TC1
HRB MAX 80

EXTENT OF DELIVERY							B07-B13
It	Product designation	Heat	Lot	Pieces	Kg	M	
03	THT-3R60-6-1 6.00 X 1.00	556111	58747	80	59.0	480.00	
				Total	80	59.0 480.00	
TEST RESULTS							
Chemical composition (weight%)							
Heat	C	Si	Mn	P	S	Cr Ni Mo	
556111	0.019	0.39	1.56	0.033	0.007	17.30 13.11 2.64	
	N						
556111	0.045						
Chemical composition, product (weight%)							
Heat	C	Si	Mn	P	S	Cr Ni Mo	
556111	0.027	0.40	1.56	0.032	0.005	17.32 13.15 2.64	
	N						
556111	0.047						

Quality assurance - Sofia Åkesson / Q-Manager	A05/Z02
MTC Service / Certificates	



**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPA	MPa	MPa	%	%
58747	Rp0.2	Rp1.0	Rm	A	4D
	355	388	600	50	48

Hardness test

Lot	Min	Max
	HRB	HRB
58747	74	76

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 556111 SS LOT 58747 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 9001:2015.

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.

