



CERTIFICATE

A03/Z02

No. A/19-858417 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
Customer order 2019-11-19	Order No. Subs No. ABSMT Dispatch note
758768	545668 677643 08262/54
003-00991 ITEMS	ABSMT No. C.Code
	300-13869 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		
01	THT-3R60-12-1.5 12.00 X 1.50	556992	18452	30	73.0	180.00		
				Total	30	73.0 180.00		
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
556992	0.019	0.42	1.56	0.034	0.010	17.19	13.10	2.65
	Co	N						
556992	0.12	0.037						
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
556992	0.018	0.43	1.56	0.034	0.011	17.23	13.14	2.66
	N							
556992	0.041							

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	%	%
Lot	Rp0.2	Rp1.0	Rm	A	2"
18452	292	320	572	52	51

Hardness test

Lot	Min	Max
	HRB	HRB
18452	71	74

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 12.00 X 1.50 MM HT 556992 SS LOT 18452 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.

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The certificate is produced with EDP and valid without signature.

