



CERTIFICATE

A03/Z02

No. A/19-839305 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 2019-08-09	Order No. Subs No. ABSMT Dispatch note 540532 673428 01951/54
758228	ABSMT No. C.Code 300-99891 15
003-00991 ITEMS	

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-3R60-20-2.5 20.00 X 2.50	555938	59433	34	221.0	204.00		
				Total	34	221.0 204.00		
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
555938	0.019	0.47	1.54	0.032	0.009	17.22	13.13	2.66
	N							
555938	0.032							
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
555938	0.018	0.46	1.55	0.032	0.008	17.25	13.14	2.66
	N							
555938	0.039							

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"
59433	264	299	587	55	58
	268	304	589	54	58
	266	301	589	53	58

Hardness test

Lot	Min	Max
	HRB	HRB
59433	77	78

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 20.00 X 2.50 MM HT 555938 SS LOT 59433 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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