



CERTIFICATE

A03/Z02

No. A/20-867456 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
758994/Holmgren	Customer order 2020-01-09	Order No. 547660 ABSMT No. 300-15441	Subs No. 679301 C.Code 15
003-00991 ITEMS		ABSMT Dispatch note 11059/54	

Material description	B01/B04	Steel/material Designations	B02
SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING		Sandvik 3R60 EN no 1.4435	AISI TP316/TP316L
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-3R60-6-1.5 6.00 X 1.50	556844	17290	3	3.0	18.00		
				Total	3	3.0	18.00	
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
556844	0.020	0.43	1.68	0.032	0.010	17.20	13.27	2.68
	Co	N						
556844	0.13	0.038						
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
556844	0.022	0.45	1.66	0.032	0.010	17.18	13.21	2.66
	N							
556844	0.046							

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	%	%
	Rp0.2	Rp1.0	Rm	A	4D
17290	289	326	578	57	57

Hardness test

Lot	Min	Max
	HRB	HRB
17290	74	75

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 1.50 MM HT 556844 SS LOT 17290 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.

