



CERTIFICATE

A03/Z02

No. A/20-892124

Rev 00

Date

2020-05-13

Page

1/2

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 795572 003-00991 ITEMS	A07		Sandvik References Order No. 554071 Subs No. 684516 ABSMT No. 300-20062 Dispatch note 18755/54 C.Code 15	A08
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Material description SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING	B01/B04		Steel/material Designations Sandvik 3R60 AISI TP316/TP316L EN no 1.4435	B02
Metallurgical process Electric furnace	C70			

Technical requirements ASTM A-213-19 AW, ASME SA-213-ED-19 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	B03
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EXTENT OF DELIVERY							B07-B13	
It	Product designation	Heat	Lot	Pieces	Kg	M		
01	THT-3R60-6-1 6.00 X 1.00	558653	25423	70	54.0	420.00		
				Total	70	54.0 420.00		
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
558653	0.019	0.41	1.70	0.030	0.007	17.26	13.14	2.63
	Co	N						
558653	0.15	0.043						
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
558653	0.017	0.40	1.67	0.031	0.007	17.26	13.12	2.65
	N							
558653	0.048							

Quality assurance - Sofia Åkesson / Q-Manager MTC Service / Certificates	A05/Z02
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A01



**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPA	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	4D
25423	282	319	573	52	52

Hardness test

Lot	Min	Max
	HRB	HRB
25423	75	77

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 558653 SS LOT 25423 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.

