



CERTIFICATE

A03/Z02

No. A/20-895335

Rev 00

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Date

2020-06-01

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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

<p>Customer References A07 759516 ERSÄTTN. Customer order 2020-05-27 003-00991 ITEMS</p>	<p>Sandvik References A08 Order No. Subs No. ABSMT Dispatch note 554768 685066 19781/54 ABSMT No. C.Code 300-20595 29</p>
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<p>Material description B01/B04 SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING Metallurgical process C70 Electric furnace</p>	<p>Steel/material Designations B02 Sandvik AISI 3R60 TP316/TP316L EN no 1.4435</p>
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<p>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</p>	B03
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EXTENT OF DELIVERY							B07-B13	
It	Product designation	Heat	Lot	Pieces	Kg	M		
	01 THT-3R60-19.05-1.24 19.05 X 1.24	558649	24271	6	20.0	36.00		
				Total	6	20.0	36.00	
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
558649	0.019	0.38	1.55	0.029	0.006	17.50	13.13	2.62
	Co	Ti	Al	N				
558649	0.15	0.006	0.005	0.040				
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
558649	0.017	0.38	1.55	0.030	0.007	17.50	13.14	2.64
	N							
558649	0.039							

<p>Quality assurance - Sofia Åkesson / Q-Manager MTC Service / Certificates</p>	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	2"
24271	318	356	594	50	50
	316	355	596	49	48

Hardness test

Lot	Min	Max
	HRB	HRB
24271	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 1.4436 EN 1.4435 TP316/316L CFA SML NDE 19.05 X 1.24 MM 3/4" X 18 BWG/SWG HT 558649 SS LOT 24271 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.

