



CERTIFICATE

A03/Z02

No. A/22-990313

Rev 00

Date

2022-01-12

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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 762005/Holmgren 003-00991 ITEMS -W	Sandvik References A08 <table border="0"> <tr> <td>Order No.</td> <td>Subs No.</td> <td>SMT Dispatch note</td> </tr> <tr> <td>579830</td> <td>705729</td> <td>05301/54</td> </tr> <tr> <td>SMT No.</td> <td>C.Code</td> <td></td> </tr> <tr> <td>300-39004</td> <td>29</td> <td></td> </tr> </table>	Order No.	Subs No.	SMT Dispatch note	579830	705729	05301/54	SMT No.	C.Code		300-39004	29	
Order No.	Subs No.	SMT Dispatch note											
579830	705729	05301/54											
SMT No.	C.Code												
300-39004	29												

Material description B01/B04 SEAMLESS STAINLESS COLD FINISHED INSTRUMENTATION TUBING Metallurgical process C70 Electric furnace	Steel/material Designations B02 <table border="0"> <tr> <td>Sandvik</td> <td>AISI</td> </tr> <tr> <td>3R60</td> <td>TP316/TP316L</td> </tr> <tr> <td>EN no</td> <td></td> </tr> <tr> <td>1.4435</td> <td></td> </tr> </table>	Sandvik	AISI	3R60	TP316/TP316L	EN no		1.4435	
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3R60	TP316/TP316L								
EN no									
1.4435									

Technical requirements B03 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

EXTENT OF DELIVERY B07-B13								
It	Product designation	Heat	Lot	Pieces	Kg	M		
01	THT-3R60-19.05-2.41 19.05 X 2.41	041894	94368	3	18.0	18.00		
				Total	3	18.0 18.00		
KEY TO HEAT			KEY TO LOT					
Heat Code	Heat No.			Lot Code	Lot No.			
041894	562416			94368	2043421-11			
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
041894	0.020	0.37	1.69	0.032	0.008	17.26	13.18	2.65
	Co	Ti	Al	N				
041894	0.14	0.012	0.004	0.037				

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



**Chemical composition, product (weight%)**

Lot	C	Si	Mn	P	S	Cr	Ni	Mo
94368	0.022	0.38	1.68	0.032	0.006	17.25	13.13	2.63
	N							
94368	0.037							

Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
94368	283	320	612	50	53
	258	293	595	51	54

Hardness test

Lot	Min	Max
	HRB	HRB
94368	75	76

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/ASME A/SA213 A269 COLD EN 10216-5 TC1 AW TP 316/TP 316L EN 1.4435 CFA SML 19.05 X 2.41 MM 3/4" X 13 BWG HT 562416 SZ LOT 2043421-11 MADE BY SANDVIK IN CZECHIA *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.





No unauthorized alterations. The contents of this Inspection Certificate may not be modified or revised in any way without the prior written approval of Sandvik Materials Technology. Unauthorized alterations to the Inspection Certificate, including introduction of false, fictitious or fraudulent statements or entries, may be punishable by fines, imprisonment, or both. This Inspection Certificate may be copied only in the manner and for the purposes specified in Section 6 of EN 10204:2004. Contravention of this notice will be prosecuted to the fullest extent of applicable law.

The certificate is produced with EDP and valid without signature.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO C-2961/10

