



CERTIFICATE

A03/Z02

No. A/22-120502

Rev 00

Date

2022-08-17

Page

1/3

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 762274/Holmgren 003-00991 ITEMS -W	A07 Customer order 2022-02-22	Sandvik References Order No. 582715 Subs No. 708036 SMT Dispatch note 19017/54 SMT No. 300-41132 C.Code 15	A08
---	---	---	------------

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
--	------------

EXTENT OF DELIVERY							B07-B13	
It	Product designation	Heat	Lot	Pieces	Kg	M		
02	THT-3R60-12-1 12.00 X 1.00	044184	95861	80	133.0	480.00		
				Total	80	133.0	480.00	
KEY TO HEAT			KEY TO LOT					
Heat Code	Heat No.		Lot Code	Lot No.				
044184	565591		95861	2068097-11				
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
044184	0.017	0.38	1.52	0.031	0.008	17.20	13.08	2.61
	N							
044184	0.034							

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



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

Lot	C	Si	Mn	P	S	Cr	Ni	Mo
95861	0.022	0.39	1.57	0.034	0.008	17.25	12.97	2.56
	N							
95861	0.040							

Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
95861	310	340	585	62	58

Hardness test

Lot	Min	Max
	HRB	HRB
95861	73	73

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 12.00 X 1.00 MM . HT 565591 SZ LOT 2068097-11 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-4692/10

