

**CERTIFICATE**

A03/Z02

No. A/22-994992**Date**

2022-02-09

Rev**Page****00**

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 762115 003-00991 ITEMS -W	A07 Customer order 2022-01-19	Sandvik References Order No. 581042 Subs No. 706665 SMT Dispatch note 07486/54 SMT No. 300-39848 C.Code 15	A08					
Material description SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING Metallurgical process Electric furnace	B01/B04 C70	Steel/material Designations Sandvik 3R60 AISI TP316/TP316L EN no 1.4435	B02					
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								
It	Product designation	Heat	Lot	Pieces	Kg	M		
01	THT-3R60-16-2 16.00 X 2.00	041992	94522	84	355.0	504.00		
				Total	84	355.0	504.00	
KEY TO HEAT				KEY TO LOT				
Heat Code	Heat No.			Lot Code	Lot No.			
041992	563099			94522	2043340-11			
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
041992	0.019	0.43	1.68	0.035	0.007	17.19	13.14	2.62
	N							
041992	0.038							
Quality assurance - Sofia Åkesson / Q-Manager MTC Service / Certificates								
A05/Z02								

A01

AB SANDVIK MATERIALS TECHNOLOGY Reg No. 556234-6832 VAT No. SE556234683201
SE-81181 SANDVIKEN SWEDEN www.materials.sandvik mtc_service.smt@sandvik.com

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

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
041992	0.022	0.44	1.66	0.034	0.009	17.19	13.09	2.63
	N							
041992	0.033							

Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
94522	254	284	556	55	57
	255	284	558	55	56

Hardness test

Lot	Min	Max
	HRB	HRB
94522	74	74

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 16.00 X 2.00 MM . HT 563099 SZ LOT 2043340-11 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-3005/40

