



CERTIFICATE

A03/Z02

No. A/19-860045 Rev 00

Date 2019-11-28 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	A07	Sandvik References	A08
758574	Customer order 2019-10-11	Order No. Subs No. ABSMT Dispatch note 543719 676026 08892/54 ABSMT No. C.Code 300-12351 15	
003-00991 ITEMS			

Material description	B01/B04	Steel/material Designations	B02
SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING		Sandvik AISI 3R60 TP316/TP316L EN no 1.4435	
Steel making process Electric furnace	C70		

Technical requirements	B03
ASTM A-213-18B AW, ASME SA-213-ED-17 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	
02	THT-3R60-6-1		556769	17289	80	59.0	480.00	
	6.00 X 1.00							
Total					80	59.0	480.00	
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
556769	0.018	0.44	1.59	0.031	0.011	17.21	13.06	2.62
	Co	N						
556769	0.11	0.036						
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
556769	0.023	0.44	1.59	0.032	0.008	17.14	13.02	2.60
	N							
556769	0.039							

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

A05/Z02

A01

AB SANDVIK MATERIALS TECHNOLOGY Reg No. 556234-6832 VAT No. SE663000-060901
SE-81181 SANDVIKEN SWEDEN www.materials.sandvik mtc_service.smt@sandvik.com

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
Lot	Rp0.2	Rp1.0	Rm	A	4D
17289	296	330	579	56	53

Hardness test

Lot	Min	Max
	HRB	HRB
17289	73	75

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 556769 SS LOT 17289 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.

No unauthorized alterations. The contents of this Inspection Certificate may not be modified or revised in any way without the prior written approval of AB 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.

