



CERTIFICATE

A03/Z02
No. A/19-836407 Rev 00
Date 2019-07-30 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	A07	Sandvik References	A08
7581296/Holmgren	Customer order 2019-07-30	Order No. 540080 ABSMT No. 300-99603	Subs No. 673078 C.Code 01093/54 ABSMT Dispatch note
003-00991 ITEMS			

Material description	B01/B04	Steel/material Designations	B02
SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING		Sandvik 3R60 EN no 1.4435	AISI TP316/TP316L
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-3R60-12-1.5	555578	56237	37	89.0	222.00		
	12.00 X 1.50	554816	57455	13	32.0	78.00		
				Total	50	121.0	300.00	
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
554816	0.020	0.39	1.59	0.030	0.009	17.32	13.14	2.62
555578	0.021	0.39	1.65	0.031	0.008	17.26	13.12	2.64
	N							
554816	0.043							
555578	0.038							

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



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

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
554816	0.020	0.41	1.60	0.031	0.009	17.46	13.21	2.66
555578	0.021	0.41	1.65	0.032	0.011	17.30	13.07	2.64
N								
554816	0.047							
555578	0.040							

Tensile test at room temperature

Lot	Yield strength		Tensile strength MPa	Elongation	
	MPa	MPa		%	%
	Rp0.2	Rp1.0	Rm	A	2"
56237	292	332	575	51	49
57455	315	352	593	50	47

Hardness test

Lot	Min	Max
	HRB	HRB
56237	74	76
57455	76	79

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 12.00 X 1.50 MM HT 555578 SS LOT 56237 MADE IN SWEDEN *QA-TUBE *

SANDVIK 3R60 ASTM A213/A269 ASME SA213 COLD EN10216-5 TC1 AW EN 1.4435 TP316/3 16L CFA SML NDE 12.00 X 1.50 MM HT 554816 SS LOT 57455 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.

