



CERTIFICATE

A03/Z02
No. A/20-870187 Rev 00
Date 2020-01-26 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
759055/Holmgren	Customer order 2020-01-23	Order No. Subs No. ABSMT Dispatch note 548535 680099 12006/54	
003-00991 ITEMS		ABSMT No. C.Code 300-16115 15	

Material description	B01/B04	Steel/material Designations	B02
SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING		Sandvik AISI 3R60 TP316/TP316L EN no 1.4435	
Metallurgical 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 12.00 X 1.50	557467	20235	30	73.0	180.00		
				Total	30	73.0	180.00	
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
557467	0.017	0.39	1.81	0.034	0.009	17.29	13.18	2.64
	Co	N						
557467	0.14	0.036						
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
557467	0.018	0.40	1.80	0.032	0.009	17.33	13.23	2.63
	N							
557467	0.043							

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



Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
Lot	Rp0.2	Rp1.0	Rm	A	2"
20235	334	369	578	54	50

Hardness test

Lot	Min	Max
	HRB	HRB
20235	75	77

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 557467 SS LOT 20235 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.

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The certificate is produced with EDP and valid without signature.

