

**CERTIFICATE****No. A/18-746159 Rev 00**
Date 2018-05-27 Page 1/3INSPECTION CERTIFICATE acc to
EN 10204 3.1Processkontroll Items AB
Box 2088
444 02 STORA H@GA
SWEDENINSPECTION STAMP
QA-TUBE

Customer References		Sandvik References	
756476/Holmgren	Customer order 2018-05-25	Order No. 514357	Subs No. 652095
003-00991 ITEMS		ABSMT No. 300-81465	Dispatch note 22280/54
		C.Code 15	

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

Technical requirements
ASTM A-213-17 AW, ASME SA-213-ED-17 AW, ASTM A-269-15A NACE MR0175/ISO 15156-3:2015, NACE MR0103/ISO 17945:2015 PED 2014/68/EU EN 10216-5 TC1 HRB MAX 80

EXTENT OF DELIVERY						
It	Product designation	Heat	Lot	Pieces	Kg	M
01	THT-3R60-6-1	552418	41619	66	51.0	396.00
	6.00 X 1.00	552418	41620	34	26.0	204.00
		Total		100	77.0	600.00
TEST RESULTS						
Chemical composition (weight%)						
Heat	C	Si	Mn	P	S	Cr
552418	0.020	0.40	1.64	0.031	0.008	17.31
	N					Ni
552418	0.037					13.13
						Mo
						2.62
Chemical composition, product (weight%)						
Heat	C	Si	Mn	P	S	Cr
552418	0.023	0.41	1.63	0.031	0.007	17.32
	N					Ni
552418	0.034					13.10
						Mo
						2.62
Quality assurance - Sofia Åkesson / Q-Manager						
MTC Service / Certificates						

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	4D
41619	346	384	588	50	50
41620	337	380	587	48	48

Hardness test

Lot	Min	Max
	HRB	HRB
41619	75	77
41620	69	72

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 EN10305-1 AW EN 1.44 35 TP316/316L CFA SML NDE 6.00 X 1.00 MM HT 552418 SS LOT 41619 MADE IN SWEDEN
QA-TUBE

SANDVIK 3R60 ASTM A213/A269 ASME SA213 COLD EN10216-5 TC1 EN10305-1 AW EN 1.44 35 TP316/316L CFA SML NDE 6.00 X 1.00 MM HT 552418 SS LOT 41620 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 9001:2008.



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The certificate is produced with EDP and valid without signature.