

**CERTIFICATE****No. A/18-749195 Rev 00**
Date 2018-06-07 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	
756504/Holmgren	Customer order 2018-06-05	Order No. 515497	Subs No. 653174
003-00991 ITEMS		ABSMT No. 300-81991	ABSMT Dispatch note 23107/54 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-3R60-16-2 16.00 X 2.00	551824	39634	80	340.0	480.00
Total				80	340.0	480.00
TEST RESULTS						
Chemical composition (weight%)						
Heat	C	Si	Mn	P	S	Cr
551824	0.020	0.36	1.66	0.030	0.009	17.26
	N					
551824	0.045					
Chemical composition, product (weight%)						
Heat	C	Si	Mn	P	S	Cr
551824	0.018	0.37	1.65	0.030	0.007	17.26
	N					
551824	0.041					
Quality assurance - Sofia Åkesson / Q-Manager MTC Service / Certificates						

**CERTIFICATE****No. A/18-749195****Rev 00****Date 2018-06-07****Page 2/3****Tensile test at room temperature**

	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
Lot	Rp0.2	Rp1.0	Rm	A	2"
39634	279	319	601	52	52
	277	316	596	54	55
	287	322	604	51	53
	286	323	601	51	52

Hardness test

	Min	Max
Lot	HRB	HRB
39634	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 EN10305-1 AW EN 1.44 35 TP316/316L CFA SML NDE 16.00 X 2.00 MM HT 551824 SS LOT 39634 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.