

INSPECTION CERTIFICATE acc to
EN 10204 3.1

PROCESSKONTROLL ITEMS AB
BOX 2088
444 02 STORA HÖGA
SWEDEN

INSPECTION STAMP
0A-TUBE

Customer References		Sandvik References	
757863/Holmgren	Customer order 2019-05-02	Order No. 535871	Subs No. ABSMT Dispatch note 669821 44638/54
003-00991	ITEMS	ABSMT No. 300-96154	C.Code 15

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

Technical requirements ASTM A-213-18 AW, ASME SA-213-ED-17 AW, ASTM A-269-15A NACE MR0175/ISO 15156-3:2015, NACE MR0103/ISO 17945-1:2016 PED 2014/68/EU EN 10216-5 TC1 HRB MAX 80
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EXTENT OF DELIVERY								
It	Product designation	Heat	Lot	Pieces	Kg	M		
02	THT-3R60-12-1.5 12.00 X 1.50	554740	51914	25	60.0	150.00		
				Total	25	60.0	150.00	
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
554740	0.020	0.38	1.66	0.031	0.008	17.36	13.19	2.65
	N							
554740	0.040							
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
554740	0.024	0.38	1.67	0.030	0.009	17.43	13.21	2.66
	N							
554740	0.043							

Quality assurance - Sofia Åkesson / Q-Manager
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"
51914	297	331	578	49	47

Hardness test

Lot	Min	Max
	HRB	HRB
51914	74	76

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 554740 SS LOT 51914 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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CERTIFICATE

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The certificate is produced with EDP and valid without signature.