



CERTIFICATE

No. A/17-644977

Rev 00

Date 2017-03-16

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INSPECTION CERTIFICATE acc to
EN 10204 3.1

Processkontroll Items AB
Box 2088
444 02 STORA H@GA
SWEDEN

INSPECTION STAMP
QA-TUBE

Customer References		Sandvik References		
754672	Customer order 2017-03-15	Order No. 472667	Subs No. 626538	ABSMT Dispatch note 41434/54
003-00991	ITEMS	ABSMT No. 300-60563	C.Code 29	

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

Technical requirements ASTM A-213-15C AW, ASME SA-213-ED-15 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-3R60-12.7-1.65 12.70 X 1.65	048316	23135	6	16.0	36.00		
				Total	6	16.0	36.00	
KEY TO HEAT								
Heat Code	Heat No.							
048316	546369							
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048316	0.018	0.39	1.64	0.032	0.0090	17.26	13.15	2.63
	N							
048316	0.033							

Quality assurance - Lars-Åke Bergqvist / QA-manager
MTC Service / Certificates

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

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048316	0.016	0.39	1.65	0.030	0.0100	17.18	13.24	2.59
	N							
048316	0.030							

Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	MPa	MPa	MPa	A	2"
23135	Rp0.2	Rp1.0	Rm	51	51

Hardness test

Lot	Min	Max
	HRB	HRB
23135	76	77

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Flaring test
- PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- 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 A/A269 ASME SA213 COLD EN10216-5 TC1 EN10305-1 AW EN 1.4435
TP316/316L CFA SML NDE 12.70 X 1.65 MM 1/2'' X 16 BWG/SWG HT 546369 SS LOT 231
35 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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