



**CERTIFICATE**

**No. A/17-661079**

**Rev 00**

**Date 2017-05-24**

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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

<b>Customer References</b>		<b>Sandvik References</b>	
754984	Customer order 2017-05-22	Order No. 479348	Subs No. 630378 ABSMT No. C.Code 300-63699 29
003-00991	ITEMS	ABSMT Dispatch note 46060/54	

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

<b>Technical requirements</b> ASTM A-213-17 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
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<b>EXTENT OF DELIVERY</b>								
<b>It</b>	<b>Product designation</b>	<b>Heat</b>	<b>Lot</b>	<b>Pieces</b>	<b>Kg</b>	<b>M</b>		
01	THT-3R60-6.35-1.24	048424	26167	1	1.0	6.00		
	6.35 X 1.24	048424	26168	7	7.0	42.00		
				<b>Total</b>	<b>8</b>	<b>8.0</b>	<b>48.00</b>	
<b>KEY TO HEAT</b>								
<b>Heat Code</b>	<b>Heat No.</b>							
048424	547949							
<b>TEST RESULTS</b>								
<b>Chemical composition (weight%)</b>								
<b>Heat</b>	<b>C</b>	<b>Si</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Cr</b>	<b>Ni</b>	<b>Mo</b>
048424	0.021	0.41	1.64	0.029	0.0090	17.26	13.13	2.64
	<b>N</b>							
048424	0.036							

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

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

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048424	0.020	0.43	1.65	0.029	0.0080	17.33	13.18	2.66
	N							
048424	0.036							

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	4D
26167	318	350	584	50	50
26168	307	343	585	52	50

**Hardness test**

Lot	Min	Max
	HRB	HRB
26167	74	76
26168	73	75

**Following controls/tests have been satisfactorily performed:**

- Flattening test.
- Flaring test
- 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 A/A269 ASME SA213 COLD EN10216-5 TC1 EN10305-1 AW EN 1.4435 TP316/316L CFA SML NDE 6.35 X 1.24 MM 1/4'' X 18 BWG/SWG HT 547949 SS LOT 26167 MADE IN SWEDEN \*QA-TUBE\*

SANDVIK 3R60 ASTM A/A269 ASME SA213 COLD EN10216-5 TC1 EN10305-1 AW EN 1.4435 TP316/316L CFA SML NDE 6.35 X 1.24 MM 1/4'' X 18 BWG/SWG HT 547949 SS LOT 26168 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.