

**CERTIFICATE**

**No. A/15-527189**   **Rev 00**  
**Date**   2015-09-30   **Page 1/2**

INSPECTION CERTIFICATE acc to  
EN 10 204 3.1

Processkontroll Items AB  
Box 2088  
444 02 STORA HÖGA  
SWEDEN

INSPECTION STAMP  
QA-TUBE

Customer References		Sandvik References	
752417	Customer order 2015-09-30	Order No. 418532	Subs No. 597697
003-00991	ITEMS	ABSMT No. 300-36016	Dispatch note 05880/54
		C.Code 29	

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

Technical requirements
ASTM A-213-15A AW, ASME SA-213-ED-13 AW, ASTM A-269-13 NACE MR0175/ISO 15156-3:2009 PED 97/23/EC EN 10216-5 TC1 HRB MAX 80

EXTENT OF DELIVERY								
It	Product designation	Heat	Lot	Pieces	Kg	M		
01	THT-3R60-6.35-1.24 6.35 X 1.24	048147	44551	8	8.0	48.00		
				Total	8	48.00		
KEY TO HEAT								
Heat Code		Heat No.						
048147		540973						
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048147	0.018	0.44	1.54	0.030	0.0100	17.24	13.11	2.53
N								
048147	0.041							
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048147	0.021	0.47	1.54	0.031	0.0100	17.26	13.02	2.54
N								
048147	0.041							
Quality assurance - Lars-Åke Bergqvist / QA-manager								
MTC Service / Certificates								

**Tensile test at room temperature**

	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
Lot	Rp0.2	Rp1.0	Rm	A	4D
44551	291	337	588	53	53

**Hardness test**

Lot	Min	Max
	HRB	HRB
44551	75	76

**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 10246-2, 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/ASME A/SA-213 A-269 EN 10216-5 TC1 EN 10305-1 COLD AW EN 1.4  
435 TP316/316L CFA SMLS NDE 6.35 X 1.24 MM 1/4'' X 18 BWG/SWG HT 540973 SS LOT  
44551 MADE BY SANDVIK IN SWEDEN \*QA-TUBE\*

The raw material is free from radioactive contamination.

Material free from mercury contamination.

Approved acc. AD 2000-Merkblatt W0 and certified acc. to  
Pressure Equipment Directive (97/23/EC) 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.

No unauthorized alterations. The contents of this Inspection  
Certificate may not be modified or revised in any way without the  
prior written approval of AB Sandvik Materials Technology.  
Unauthorized alterations to the Inspection Certificate, including  
introduction of false, fictitious or fraudulent statements or entries,  
may be punishable by fines, imprisonment, or both. This Inspection  
Certificate may be copied only in the manner and for the purposes  
specified in Section 6 of EN 10204:2004. Contravention of this notice  
will be prosecuted to the fullest extent of applicable law.

The certificate is produced with EDP and valid without signature.