CERTIFICATE



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		Sa	Sandvik References				
	Customer					f Dispatch note	
752033	order				49063	3/54	
	2015-06-	18 AB	SMT No.	C.Cod	le		
		30	0-31500	29			
003-00991 ITEMS							
			.				
Material description	FINICUED			erial D	esignatio		
SEAMLESS STAINLESS COLD	FINISHED		ndvik 60		AISI	L L6/TP316L	
INSTRUMENTATION TUBING			no		1231	10/123101	
		11	4435				
		+•	4435				
Steel making process							
Electric furnace							
Technical requirements							
ASTM A-213-13 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 design							
01 THT-3R60-19.05-	1.24	541662	41447	5	17.0	30.00	
19.05 X 1.24							
				_	1 - 0		
			Total	5	17.0	30.00	
TEST RESULTS							
Chemical composition (w	-	-		-	a .		
Heat C Si 541662 0.020 0.39	Mn 1.79	P 0.0		s .009	Cr 17.31	Ni Mo 13.14 2.53	

541662 0.020 0.39 1.79 0.028 0.009 17.31 13.14 Ν 541662 0.035 Chemical composition, product (weight%) Heat Si Mn P С S 0.028 0.006 17.29 541662 0.019 0.40 1.78

Ν 541662 0.040

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

AB SANDVIK MATERIALS TECHNOLOGY Reg No. 556234-6832 VAT No. SE663000-060901 SE-81181 SANDVIKEN SWEDEN www.smt.sandvik.com mtc_service.smt@sandvik.com

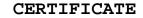
Cr

Ni

13.12

Mo

2.51





Tensile test	at room	temperature					
		strength	Tensile strength	-			
Lot	MPa Bro 2	MPa Bp1 0	MPa Rm	%% A 2"			
41447	Rp0.2 349		KIII 601	50 48			
	349		599	50 48			
Hardness test	Min	Max					
Lot	HRB	HRB					
41447	74	77					
<pre>Following controls/tests have been satisfactorily performed: - Flattening test Flaring test - PMI-test Intergranular corrosion test acc to ASTM A-262 PR.E</pre>							
 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 19.05 X 1.24 MM 3/4'' X 18 BWG/SWG HT 541662 SS LO T 41447 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.							