



CERTIFICATE

No. A/15-468783 Rev 00
Date 2015-01-07 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	
751354	Customer order 2014-12-23	Order No. 391705	Subs No. 583568
003-00991	ITEMS	ABSMT No. 300-23722	ABSMT Dispatch note 38257/54 C.Code 15

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

Technical requirements
 ASTM A-213-13 AW, ASME SA-213-ED-10 AD-11A 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		
02	THT-3R60-6-1 6.00 X 1.00	048071	34050	80	61.0	480.00		
				Total	80	61.0	480.00	
KEY TO HEAT								
Heat Code	Heat No.							
048071	538980							
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048071	0.018	0.43	1.79	0.028	0.0080	17.22	13.15	2.52
	N							
048071	0.034							
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048071	0.023	0.40	1.76	0.028	0.0087	17.26	13.34	2.54
	N							
048071	0.053							

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

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	4D
34050	270	307	555	58	58

Hardness test

Lot	Min	Max
	HRB	HRB
34050	73	74

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 EN 1.4435
TP316/316L CFA SMLS NDE 6.00 X 1.00 MM HT 538980 SS LOT 34050 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.