

**CERTIFICATE****No. A/14-448716 Rev 00**
Date 2014-10-03 Page 1/3INSPECTION CERTIFICATE acc to
EN 10 204 3.1Processkontroll Items AB
Box 2088
444 02 STORA HÖGA
SWEDENINSPECTION STAMP
QA-TUBE

Customer References		Sandvik References	
750972	Customer order 2014-10-03	Order No. 383796	Subs No. 579173
003-00991 ITEMS		ABSMT No. 300-20035	Dispatch note 32483/54
		C.Code 15	

Material description	Steel/material Designations
SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING	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-3R60-10-1	048053	33826	35	50.0	210.00		
	10.00 X 1.00	048053	33828	15	22.0	90.00		
Total				50	72.0	300.00		
KEY TO HEAT								
Heat Code	Heat No.							
048053	537459							
TEST RESULTS								
Chemical composition (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048053	0.017	0.40	1.63	0.030	0.008	17.27	13.06	2.53
	N							
048053	0.044							
Chemical composition, product (weight%)								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048053	0.016	0.40	1.62	0.031	0.009	17.27	13.04	2.50
	N							
048053	0.043							
Quality assurance - Lars-Åke Bergqvist / QA-manager								
MTC Service / Certificates								

**CERTIFICATE****No. A/14-448716****Rev 00****Date 2014-10-03****Page 2/3****Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	4D
33826	287	322	557	57	53
33828	275	310	565	52	51

Hardness test

Lot	Min	Max
	HRB	HRB
33826	73	74
33828	74	75

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 10.00 X 1.00 MM HT 537459 SS LOT 33826 MADE BY SANDVI
K IN SWEDEN *QA-TUBE*
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 10.00 X 1.00 MM HT 537459 SS LOT 33828 MADE BY SANDVI
K 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.



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The certificate is produced with EDP and valid without signature.