

**CERTIFICATE****No. A/17-641900****Rev 00****Date 2017-03-02****Page 1/3**INSPECTION CERTIFICATE acc to
EN 10204 3.1Processkontroll Items AB
Box 2088
444 02 STORA H@GA
SWEDENINSPECTION STAMP
QA-TUBE**Customer References**

754494

Customer
order
2017-02-08

003-00991 ITEMS

Sandvik ReferencesOrder No. Subs No. ABSMT Dispatch note
468646 624584 40390/54
ABSMT No. C.Code
300-58886 15**Material description**SEAMLESS STAINLESS COLD FINISHED
HYDRAULIC TUBING**Steel making process**

Electric furnace

Steel/material DesignationsSandvik AISI
3R60 TP316/TP316L
EN no
1.4435**Technical requirements**ASTM A-213-15C 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**EXTENT OF DELIVERY**

It	Product designation	Heat	Lot	Pieces	Kg	M
01	THT-3R60-8-1 8.00 X 1.00	048315	22370	12	13.0	72.00
Total				12	13.0	72.00

KEY TO HEAT

Heat Code	Heat No.
048315	546262

TEST RESULTS**Chemical composition (weight%)**

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048315	0.021	0.36	1.59	0.029	0.0060	17.29	13.20	2.67
048315	N 0.047							

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

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Chemical composition, product (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
048315	0.020	0.36	1.56	0.027	0.0060	17.31	13.20	2.62
	N							
048315	0.048							

Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	4D
22370	354	400	610	51	48

Hardness test

Lot	Min	Max
	HRB	HRB
22370	75	77

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 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 A213/A269 ASME SA213 COLD EN10216-5 TC1 EN10305-1 AW EN 1.44
35 TP316/316L CFA SML NDE 8.00 X 1.00 MM HT 546262 SS LOT 22370 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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