



CERTIFICATE

No. A/11-133323

Rev 00

Date 2011-01-28

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		
709676/Holmgren	Customer order 2011-01-28	Order No. 230326	Subs No. 199095	ABSMT Dispatch note 28797/54
003-00991	ITEMS	ABSMT No. 300-37141	C.Code 68	

Material description SEAMLESS STAINLESS COLD FINISHED PIPE	Steel/material Designations Sandvik AISI 3R12 TP304/TP304L AFNOR Z2CN18-10
Steel making process Electric furnace	

Technical requirements
 ASTM A-312-09, ASME SA-312-ED-07 AD-09B
 NACE MR0175/ISO 15156-3:2009
 NFA 49-117-09/85, tolerances and leak test acc. to ASTM A312/A999

EXTENT OF DELIVERY

It	Product designation	Heat	Lot	Pieces	Kg	M
02	TST-3R12-1/2-SCH40 21.34 X 2.77	525723	17988	2	14.0	12.10
				Total	2	14.0 12.10

TEST RESULTS

Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	N
525723	0.008	0.38	1.15	0.026	0.006	18.22	10.10	0.064

Chemical composition, product (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	N
525723	0.010	0.37	1.15	0.028	0.005	18.25	10.07	0.067

Tensile test at room temperature

Lot	Yield strength		Tensile strength		Elongation	
	MPa		MPa		%	%
17988	Rp0.2		Rm		A	2"
	301		616		57	61
	301		617		54	59

Quality assurance - Per Eriksson/ QA-manager Tube & Pipe
MTC Service / Certificates

**Hardness test**

	Min	Max
Lot	HRB	HRB
17988	77	79

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Ring expansion test
- Flaring test
- PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Leak test: Eddy current test acc to ASME SA-999.
- Visual inspection and dimensional control.

Heat Treatment:

Solution annealed and quenched.

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.

The certificate is produced with EDP and valid without signature.