



CERTIFICATE

No. A/10-109519 Rev 00
Date 2010-11-03 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	
709338	Customer order 2010-11-02	Order No. 218969	Subs No. 190105
003-00991	ITEMS	ABSMT No. 300-31792	ABSMT Dispatch note 21121/54
		C.Code 68	

Material description SEAMLESS STAINLESS COLD FINISHED PIPE	Steel/material Designations Sandvik AISI 3R65 TP316/TP316L AFNOR Z6CND17-11/Z2CND17-12
Steel making process Electric furnace	

Technical requirements
 ASTM A-312-09, ASME SA-312-ED-07 AD-09B
 NACE MR0175/ISO 15156-3:2003
 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
01	TST-316L-1/2-SCH80 21.34 X 3.73	525682	18127	2	20.0	12.89
				Total	2	20.0 12.89

TEST RESULTS
Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
525682	0.010	0.39	1.70	0.031	0.008	16.73	11.23	2.03
	Co	N						
525682	0.10	0.063						

Chemical composition, product (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
525682	0.013	0.39	1.72	0.031	0.007	16.65	11.26	2.03
	Co	N						
525682	0.10	0.062						

Tensile test at room temperature

Lot	Yield strength		Tensile strength		Elongation	
	MPa	Rp0.2	MPa	Rm	%	%
18127	398		659		45	50

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

**Hardness test**

	Min	Max
Lot	HRB	HRB
18127	86	88

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.