



CERTIFICATE

No. A/05-489864 Rev 00
Date 2005-08-22 Page 1/2

INSPECTION CERTIFICATE acc to
EN 10 204 3.1

SANDVIK DE MEXICO S.A. DE C.V.
VIA GUSTAVO BAZ 352
COL.LA LOMA
TLALNEPANTLA EDO.DE MEXICO
CP 54060 MEXICO

INSPECTION STAMP
QA-TUBE

Customer References	Customer order	Sandvik References	Order No.	Subs No.	ABSMT Dispatch note
560-00991	2005-07-19	ABSMT No.	300-90794	80830	67882/54
		C.Code		68	

Material description	Steel/material Designations
SEAMLESS STAINLESS COLD FINISHED PIPE	Sandvik 3R65
	AISI TP316/TP316L
Steel making process Electric furnace	

Technical requirements
 ASTM A-312-04B, ASME SA-312-ED-04
 NACE MR0175/ISO 15156-3:2003

EXTENT OF DELIVERY

It	Product designation	Heat	Lot	Pieces	Kg	M
06	TST-316L-1/2-SCH40	034832	28427	21	167.0	134.56
	21.34 X 2.77	034754	29123	26	212.0	172.49
		Total		47	379.0	307.05

KEY TO HEAT

Heat Code	Heat No.
034754	510800
034832	517140

TEST RESULTS

Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
034754	0.021	0.44	1.87	0.030	0.007	17.08	11.16	2.07
034832	0.021	0.50	1.84	0.030	0.010	16.98	11.36	2.07
	Co	Cu	N					
034754	0.056	0.23	0.065					
034832	0.32	0.29	0.068					

Tensile test at room temperature

Lot	Yield strength	Tensile strength	Elongation
	N/mm ² Rp0.2	N/mm ² Rm	% 2"
28427	303	611	53
	310	613	54
29123	304	611	60
	281	562	59

Leak test: Eddy current test acc to Practice E426 with drilled hole as reference standard on all tubes, with the exception of those lots which have been hydrostatically tested.

Hardness test

Lot	Min	Max
	HRB	HRB
28427	78.0	82.0
29123	77.0	83.0

Following controls/tests have been satisfactorily performed:

- Flattening test
- PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- 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.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO 832749/664140
824317/661477