



CERTIFICATE

No. A/05-456648 Rev 00
Date 2005-04-30 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		Sandvik References		
	Customer order	Order No.	Subs No.	ABSMT Dispatch note
	2005-04-25		80817	42758/54
560-00991		ABSMT No.	C.Code	
		300-84078	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-312-03, ASME SA-312-ED-01 AD-03
 NACE MR0175/ISO 15156-3:2003

EXTENT OF DELIVERY

It	Product designation	Heat	Lot	Pieces	Kg	M
08	TST-316L-1/2-SCH40 21.34 X 2.77	034698	18089	32	249.0	202.93
				Total	32	249.0 202.93

KEY TO HEAT

Heat Code	Heat No.
034698	508000

TEST RESULTS

Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
034698	0.025	0.37	1.89	0.027	0.012	16.81	11.12	2.02
	Co	Cu	N					
034698	0.053	0.20	0.062					

Tensile test at room temperature

Lot	Yield strength	Tensile strength	Elongation
	N/mm2	N/mm2	%
18089	Rp0.2	Rm	2"
	340	614	56
	350	610	56

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

	Min	Max
Lot	HRB	HRB
18089	82.0	88.0

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 794838/652795