



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

Customer
order
2005-04-25

560-00991

Sandvik References

Order No.	Subs No.	ABSMT Dispatch note
	80817	42758/54
ABSMT No.	C.Code	
300-84078	68	

Material description

SEAMLESS STAINLESS COLD FINISHED
PIPE

Steel/material Designations

Sandvik	AISI
3R65	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
					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	Rp0.2	N/mm2	Rm	%
18089	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

Lot	Min HRB	Max 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