

INSPECTION CERTIFICATE acc to
EN 10 204 3.1.B

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
2005-01-31

560-00991

Sandvik References

Order No.	Subs No.	ABSMT Dispatch note
	80805	09607/54
ABSMT No.	C.Code	
300-77246	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
16	TST-316L-1/2-SCH40	034698	18681	28	217.0	176.42
	21.34 X 2.77	034699	19850	4	32.0	25.76
		Total		32	249.0	202.18

KEY TO HEAT

Heat Code	Heat No.
034698	508000
034699	506190

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
034699	0.010	0.36	1.87	0.030	0.009	16.67	11.31	2.03
	Co	Cu	N					
034698	0.053	0.20	0.062					
034699	0.063	0.22	0.068					



CERTIFICATE

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Tensile test at room temperature

	Yield strength	Tensile strength	Elongation
	N/mm2	N/mm2	%
Lot	Rp0.2	Rm	2"
18681	304	610	60
	303	617	56
19850	318	643	61
	305	624	61

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
18681	78.0	82.0
19850	76.0	82.0

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
793780/652289