



CERTIFICATE

No. A/09-913798 Rev 00
Date 2009-11-04 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 560-00991	Customer order 2009-07-31	Sandvik References	Order No. 81112	Subs No. 36895/54	ABSMT Dispatch note
		ABSMT No. 300-96767	C.Code 68		

Material description
SEAMLESS STAINLESS COLD FINISHED
PIPE

Steel making process
Electric furnace

Steel/material Designations
Sandvik AISI
3R12 TP304/TP304L
AFNOR
Z2CN18-10

FECHA: 21 Ene 2010
CE000164
FATIGUE 2012

PLASA ANAHUAC Y CIA. S.A. DE C.V.
CONTROL DE CALIDAD

Technical requirements
ASTM A-312-08, ASME SA-312-ED-07 AD-08
NACE MR0175/ISO 15156-3:2003
NFA 49-117-09/85, tolerances and leak test app. to ASTM A312/A999

EXTENT OF DELIVERY

It	Product designation	Heat	Lot	Pieces	Kg	M
03	TST-3R12-1/2-SCH40 21.34 X 2.77	522977	51812	24	185.0	154.81
				Total	24	185.0
					185.0	154.81

TEST RESULTS

Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	N
522977	0.007	0.38	1.15	0.026	0.008	18.25	10.14	0.0582

Chemical composition, product (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	N
522977	0.009	0.38	1.15	0.027	0.006	18.25	10.16	0.055

Tensile test at room temperature

Lot	Yield strength		Tensile strength		Elongation	
	MPa	MPa	MPa	MPa	%	%
51812	Rp0.2	Rm	A	2"		
	257	605	54	57		

**Hardness test**

	Min	Max
Lot	HRB	HRB
51812	72	74

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.