



CERTIFICATE

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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 Referencés	Customer order	Sandvik References
560-00991	2004-04-07	Order No. 80278 Subs No. 80278 ABSMT No. 300-52126 C.Code 68 ABSMT Dispatch note 18777/54

Material description	Steel/material Designations
SEAMLESS STAINLESS COLD FINISHED PIPE	Sandvik 3R12 AISI TP304/TP304L
Steel making process Electric furnace	

**Technical requirements**  
ASTM A-312-01A, ASME SA-312-ED-01 AD-03  
NACE MR 01-75

**EXTENT OF DELIVERY**

It	Product designation	Heat	Lot	Pieces	Kg	M
05	TST-3R12-3/4-SCH40 26.67 X 2.87	501121	47705	1	8.0	4.88
		502070	51571	10	91.0	54.98
		<b>Total</b>		<b>11</b>	<b>99.0</b>	<b>59.86</b>

**TEST RESULTS**

Chemical composition (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
501121	0.011	0.37	1.25	0.026	0.007	18.20	10.16	0.32
502070	0.012	0.38	1.22	0.028	0.0053	18.36	10.13	0.30
	Co	Cu	N					
501121	0.061	0.21	0.058					
502070	0.061	0.23	0.058					

Tensile test at room temperature

Lot	Yield strength N/mm2 Rp0.2	Tensile strength N/mm2 Rm	Elongation % 2"
47705	330	610	60
51571	323	635	59

**SANDVIK**

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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
47705	74.0	84.0
51571	80.0	83.0

Following controls/tests have been satisfactorily performed:

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