

Tenaris

**CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE**

(DIN EN 10204:2004E - ISO 10474.3.1.B)

Tubos de Acero de México, S.A.
Carr. Mty-Laredo Km. 24.2

Vendido a: **PROVEEDORA DE MATERIALES ANGER, S.A.**
 DE C.V.
 Especificaciones y Grados / Standard or Specification and Steel Grade
 Sold to: **DE C.V.**
 Dimensiones y tolerancias / Dimension and tolerances
 Pedido del Cliente No: **5256 -**
 Customers Order No:
 Conforme to **ASME II Ed. 2001 ASME SA-234 "M" Grade WPB, NACE MR0103-2003**
ASME B 16.9 - 2003 and ASME B 16.28 - 1994

Factura/Invoice: **Bocas / Ends**
Biselado / Bevelled ends

Numero: **20799** Pagina/Page: **1 DE 1**
 Aparato Postal 43
 (65350) C. de Flores, N.L. Méx.
 (52) 81 8305 9600 tel
 (52) 81 8305 9620 fax

Lista de Empaque: **10713** Fecha/Date: **8 de Agosto de 2006**
 Packing List:

ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	PRUEBAS MECANICAS / MECHANICAL TEST			PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C							
				ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	SAMPLE DIM mm	Joules	Joules	Joules	PROMEDIO AVERAGE Joules		
1	S26550	228	CODO 4 X 90° R. I. CED-STD	341	475	34	95	1	Joules	2	Joules	3	Joules	PROMEDIO AVERAGE Joules
2	T40182	100	CODO 6 X 90° R. I. CED-STD.	323	490	39	122							
3	T39854	2	TEE 8 CED-STD	262	480	37	107							
4	T38541	14	TEE 8 CED-STD	243	438	36	100							
5	S29143	400	CODO 2 X 90° R. I. CED-XS	336	504	30	101							
6	S21394	200	CODO 2 X 90° R. I. CED-STD	458	679	29	133							
7	S21171	136	CODO 2 1/2 X 90° R. I. CED-STD	327	500	31	122							
8	S45280	240	CODO 1 1/2 X 90° R. I. CED-STD.	357	511	28	122							
9	S38130	120	CODO 1 1/2 X 90° R. I. CED-XS	358	524	34	130							

ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA HEAT CODE	COLADA HEAT M.P/MOTHER PIPE	%C	%E	%Mn	%P	%S	%SI	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	S26550	26550	0.320	0.190	0.720	0.010	0.002	0.270	0.040	0.018	0.010	0.013	0.001	0.001
HF	T40182	40182	0.320	0.180	0.690	0.015	0.002	0.280	0.060	0.064	0.009	0.030	0.000	0.000
HF	T39854	39854	0.300	0.170	0.680	0.011	0.002	0.270	0.030	0.052	0.005	0.020	0.000	0.000
HF	T38541	38541	0.310	0.180	0.680	0.007	0.002	0.290	0.050	0.073	0.014	0.040	0.000	0.000
HF	S29143	29143	0.350	0.200	0.780	0.009	0.002	0.280	0.040	0.036	0.020	0.024	0.001	0.000
HF	S21394	21394	0.310	0.180	0.720	0.011	0.001	0.260	0.030	0.035	0.010	0.021	0.001	0.001
HF	S21171	21171	0.310	0.180	0.740	0.010	0.001	0.290	0.010	0.018	0.010	0.010	0.001	0.002
HF	S45280	45280	0.323	0.180	0.730	0.010	0.001	0.300	0.050	0.055	0.020	0.048	0.001	0.000
HF	S38130	38130	0.313	0.180	0.710	0.009	0.001	0.280	0.030	0.043	0.020	0.022	0.001	0.001

Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecanicas son verdaderos o una copia fiel de los certificados enviados por el fabricante y/o el proveedor de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con N°: **420901 8037557 8033344 8011770 443293 371740 369597 329135 258860**

We certify that result of chemical analysis and mechanical test are true and correct copy of the test certificate issued by the manufacturer and/or supplier Raw material (Seamless Pipe) cuts conform to ASTM A106 Grade B N°: **420901 8037557 8033344 8011770 443293 371740 369597 329135 258860**

Este material cumple con los requerimientos especificados en la orden.
 The material of this certificate heat number mentioned above is in compliance with the requirements specified in the order.

Formado en caliente a 520°C-980°C, enfriado al aire; Formado en frío normalizado a 940°C max.
 Hot formed fittings in a range from 520°C to 980°C, cooled in still air.
 Cold formed normalized at 940°C max.

Inspección Dimensional Satisfactoria. Visual dimensional check Satisfactory.
 Holding time: 10'

CF FORMADO EN FRIO/COLD FORMED

ING. WALDO GALLEGOS GALVAN

Quality Manager/Jefe de Calidad: **Waldo Gallegos Galvan**

CC-008