

**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
Aparato Postal 43
(65550) C. de Flores, N.L. Méx.
(52) 81 8305 9600 tel
(52) 81 8305 9620 fax

Vendido a: PLESA ANAHUAC Y CIA. S.A. DE C.V.
Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.

Pedido del Cliente No: 4897 - 4482 - 4921 -
Customers Order No: 4897 - 4482 - 4921 -

Lista de Empaque: 1 0708
Packing List: 1 0708

Fecha/Date: 6 de Agosto de 2008

Especificaciones y Grados / Standard or Specification and Steel Grade
Seamless Fittings according to ASTM A 234 "W" WPB-97, A234 "W" WPB-05a, NACE MR 01.75-2003
Conform to ASME II Ed. 2001 ASME SA-234 "W" Grade WPB, NACE MR0103-2003

Dimensiones y tolerancias / Dimension and Tolerances
ASME B 16.9 - 2003 and ASME B 16.28 - 1994

Factoral/Invoice: Bocas / Ends
Biselado / Bevelled ends

DESCRIPCION DE MATERIAL / MATERIAL DESCRIPTION				PRUEBAS MECANICAS / MECHANICAL TEST				PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C				
ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
23	S22135	43	CODO 1 1/2 X 45° CED-STD	365	529	48	137					
24	T39037	7	TEE 12 CED-80	328	480	57	114					
25	S38130	21	CODO 1 1/2 X 90° R. C. CED-STD	347	489	39	118					
26	S42716	4	CODO 2 1/2 X 90° R. C. CED-XS	298	469	35	100					
27	T33842	3	CODO 12 X 45° CED-20	348	490	32	89					
28	T27272	4	TEE 12 CED-20	362	487	48	116					
29	S22135	33	CODO 2 X 90° R. C. CED-STD	341	505	32	122					

ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA HEAT CODE	COLADA/MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%SI	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	S22135	22135	0.320	0.170	0.800	0.011	0.001	0.300	0.040	0.024	0.010	0.017	0.001	0.002
HF	T39037	39037	0.300	0.170	0.660	0.011	0.001	0.280	0.040	0.045	0.008	0.040	0.000	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
HF	S42716	42716	0.303	0.170	0.720	0.009	0.001	0.300	0.030	0.032	0.020	0.016	0.001	0.000
HF	T33842	33842	0.330	0.180	0.720	0.008	0.002	0.280	0.050	0.061	0.053	0.030	0.000	0.000
HF	T27272	27272	0.330	0.180	0.680	0.011	0.003	0.270	0.090	0.067	0.036	0.050	0.000	0.000
HF	S22135	22135	0.330	0.180	0.800	0.012	0.001	0.280	0.040	0.022	0.010	0.017	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 (Tuberia Sin Costura) conforme ASTM A106 Grado B con N°.

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) certis conform to ASTM A106 Grade B N°.
385336 8041436 258860 306038 7024079 6024908 380581

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.

Notes: Formado en caliente a 620°C-980°C, enfriado al aire. Formado in a range from 620°C to 980°C, cooled in still air.
Cold formed normalized at 940°C max.
Holding time 10'.
Visual dimensional check. Satisfactory.
CF: FORMADO EN FRIOCOLD FORMED

Notes: Formed in a range from 620°C to 980°C, cooled in still air.
Cold formed normalized at 940°C max.
Holding time 10'.
Visual dimensional check. Satisfactory.
CF: FORMADO EN FRIOCOLD FORMED

Quality Manager Jefe de Calidad:
ING. WALDO GALLEGOS GALVAN

The Products described herein were produced in accordance with the above referenced specification and are identified with the "R" which is permanently marked on each fitting. The values of hardness for fittings NPS 2 1/2" and smaller ones obtain from the conversion of hardness Rockwell B to hardness Brinell HBW by means of table WILSON DESK CHART 60.
Los valores de dureza para conexiones de NPS de 2 1/2" y menores, se obtienen de la conversión de dureza Rockwell B a dureza Brinell HBW mediante la tabla WILSON DESK CHART 60.