

**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
Aparado Postal 43
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Vendido a:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No:	4107	Lista de Empaque:	10174	Fecha/Date:	7 de Febrero de 2008
Sold to:		Customers Order No:		Packing List:			
Especificaciones y Grados / Standard or Specification and Steel Grade		Dimensiones y tolerancias / Dimension and tolerances		Factura/Invoice:		Bocas / Ends	
Seamless Fittings according to ASTM A 234 "W" WPB-87, A234 "W" WPB-05a, NACE MR 01-75-2003		ASME B 16.9 - 2003 and ASME B 16.28 - 1994		Biselado / Bevelled ends			
Conform to ASME II Ed. 2001 ASME SA-234 "W", Grado WPB.							

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	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules
12	S22135	120	CODO 1 1/2 X 90° R. L. CED-STD.	365	529	48	137				
13	S22135	80	CODO 1 1/4 X 90° R. L. CED-STD	365	529	48	137				
14	S24684	30	CODO 1 1/2 X 45° CED-XS	337	492	39	112				
15	S22585	50	RED. CONC. 3 X 2 CED-XS	309	415	34	118				
16	S38130	85	CODO 1 1/2 X 90° R. L. CED-XS	358	524	34	130				
17	S45280	10	CODO 1 1/4 X 45° CED-STD	357	511	28	122				
18	S26168	50	CODO 2 1/2 X 90° R. L. CED-XS	264	473	37	126				
19	S22920	11	CODO 4 X 45° CED-XS	297	476	32	105				
20	S20540	13	CODO 4 X 45° CED-XS	283	477	33	106				
21	S69900	20	CODO 2 1/2 X 90° R. C. CED-STD	318	485	33	142				
22	S22135	42	CODO 2 X 90° R. C. CED-STD	341	505	32	142				

ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA HEAT CODE	COLADAH/HEAT M.P./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	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	S24684	24684	0.333	0.190	0.740	0.007	0.001	0.290	0.040	0.030	0.040	0.020	0.001	0.001
CF	S22585	22585	0.310	0.170	0.760	0.010	0.000	0.270	0.040	0.029	0.010	0.022	0.001	0.004
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	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	S26168	26168	0.325	0.180	0.810	0.008	0.001	0.290	0.020	0.038	0.010	0.019	0.001	0.001
HF	S22920	22920	0.310	0.180	0.720	0.012	0.001	0.270	0.030	0.029	0.010	0.036	0.001	0.001
HF	S20540	20540	0.320	0.180	0.770	0.013	0.001	0.280	0.050	0.038	0.010	0.022	0.001	0.001
HF	S69900	69900	0.329	0.180	0.770	0.014	0.002	0.290	0.050	0.062	0.020	0.029	0.001	0.001
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

Notes: Formado en caliente a 620°C-980°C, enfriado al
Hot formed fittings in a range from 620°C to 980°C, cooled in still air.
Held formed fittings in a range from 620°C to 980°C, cooled in still air.
Cold formed normalized at 940°C max.
Holding time 10'

Jefe de Calidad:
Quality Manager:

ING. JOSE MARTINEZ MACIAS

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.

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) cents conform to ASTM A106 Grade B N°.
7043236 7043236 161655 386216 258860 329135 165677
386862 365216 257125 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.