

**CERTIFICADO DE CALIDAD  
INSPECTION CERTIFICATE**  
(DIN EN 10204:2004E - ISO 10474 3.1.B)

Tubos de Acero de México, S.A.

Carr. Mty-Taraco Km 24.2  
Apartado Postal 43  
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Vendido a:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No:	3333	Lista de Empaque:	9 4 8 0	Fecha/Date:	8 de Agosto de 2007
Sold to:		Customers Order No:		Packing List:		Factura/Invoice:	Bocas / Ends
Especificaciones y Grados / Standard or Specification and Steel Grade		Dimensiones y tolerancias / Dimension and tolerances				Biselado / Bevelled ends	
Seamless Fittings according to ASTM A 234" W" WPB-97, A234" W" WPB-05a, NACE MR 01.75-2003		ASME B 16.9 - 2003 and ASME B 16.28 - 1994					
Conform to ASME II Ed. 2001 ASME SA-234" W" Grade 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. %Z"	DUREZA HARDNESS HB	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	T33901	100	CODO 6 X 90° R. I. CED-STD.	294	469	37	90				
2	T33356	49	CODO 6 X 45° CED-STD	288	468	34	90				
3	T34179	11	CODO 6 X 45° CED-STD	368	515	31	89				
4	T29678	5	TEE 6 CED-XS	324	472	39	86				
5	T32956	20	TEE 6 CED-XS	304	488	44	126				
6	T24282	15	CODO 4 X 45° CED-STD	340	468	42	122				
7	T28738	11	CODO 4 X 45° CED-STD	338	482	35	121				
8	S47792	9	CODO 4 X 45° CED-STD	332	484	29	113				
9	S48564	5	CODO 4 X 45° CED-STD	351	489	34	114				
10	S21394	150	CODO 2 X 45° CED-STD	302	472	28	133				
11	S46693	50	CODO 2 1/2 X 45° CED-STD	337	486	32	133				

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	ANALISIS QUIMICO / CHEMICAL ANALYSIS											
			%C.E.	%C	%Mn	%P	%S	%SI	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T33901	33901	0.310	0.170	0.680	0.009	0.002	0.280	0.060	0.068	0.049	0.030	0.000	0.000
HF	T33356	33356	0.320	0.180	0.690	0.010	0.002	0.290	0.070	0.066	0.028	0.030	0.000	0.000
HF	T34179	34179	0.320	0.180	0.670	0.010	0.002	0.270	0.060	0.075	0.027	0.040	0.000	0.000
HF	T29678	29678	0.000	0.180	0.650	0.008	0.001	0.270	0.040	0.076	0.026	0.040	0.000	0.000
HF	T32956	32956	0.300	0.170	0.660	0.009	0.003	0.280	0.060	0.055	0.019	0.030	0.000	0.000
HF	T24282	24282	0.300	0.160	0.690	0.008	0.002	0.280	0.050	0.072	0.034	0.030	0.000	0.000
HF	T28738	28738	0.300	0.170	0.670	0.009	0.002	0.300	0.040	0.077	0.022	0.030	0.000	0.000
HF	S47792	47792	0.323	0.180	0.730	0.014	0.001	0.280	0.050	0.029	0.040	0.018	0.001	0.001
HF	S48564	48564	0.331	0.180	0.800	0.010	0.001	0.280	0.040	0.045	0.020	0.035	0.001	0.001
HF	S21394	21394	0.312	0.180	0.720	0.011	0.001	0.260	0.030	0.036	0.010	0.021	0.001	0.001
HF	S46693	46693	0.313	0.180	0.700	0.012	0.001	0.270	0.050	0.034	0.010	0.021	0.001	0.002

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 Grade 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) cuts conform to ASTM A106 Grade B N°.

7029201 7014583 7029201 7011123 7028768 5021213  
6014464 338647 342235 371740 329514

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.

Notas: Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frio normalizado a 940°C max.  
Hot formed fittings in a range from 620°C to 980°C, cooled in still air.  
Cold formed normalized at 940°C max.

Tempo de permanencia 10'. Holding time 10'.  
Inspección Dimensional, Satisfactoria. Visual dimensional check, Satisfactory

HF: FORMADO EN CALIENTE/HOT FORMED CF: FORMADO EN FRIO/COLD FORMED

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.

Jefe de Calidad:  
Quality Manager:

ING. JOSE MARTINEZ MACIAS