



Tubos de Acero de México, S.A.  
Carr. Mty-Laredo Km. 24.2  
Apartado Postal 43  
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**CERTIFICADO DE CALIDAD  
INSPECTION CERTIFICATE**

(DIN EN 10204:2004E - ISO 10474 3.1.B)

Numero:  
Number:  
20818

Pagina/Page:  
1 DE 1

Lista de Empaque:  
Packing List:  
10724

Fecha/Date:  
12 de Agosto de 2008

Pedido del Cliente No:  
Customers Order No:  
4884 -

Dimensiones y tolerancias / Dimension and tolerances

Factura/Invoice:  
Bocas / Ends  
Biselado / Bevelled ends

ASME B 16.9 - 2003 and ASME B 16.28 - 1994

Vendido a:  
Sold to:  
PLESA ANAHUAC Y CIA. S.A. DE C.V.  
Especificaciones y Grados / Standard or Specification and Steel Grade  
Seamless Fittings according to ASTM A 234 "M" WPB-87, A234 "M" WPB-06a, NACE MR 01.75-2003  
Conform to ASME II Ed. 2001 ASME SA-234 "M", Grade WPB, NACE MR0103-2003

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
12	T40042	15	TEE RED. 10 X 6 CED-STD	326	490	44	120					
13	T38336	1	RED. CONC. 14 X 12 CED-STD	323	485	44	124					
14	T37515	4	RED. CONC. 14 X 12 CED-STD	308	476	34	99					
15	S27721	30	RED. CONC. 4 X 2 CED-STD	288	473	33	105					
16	T39854	30	TEE RED. 8 X 4 CED-STD	290	470	43	102					
17	T39049	30	TEE RED. 6 X 4 CED-STD	310	486	43	105					

ANALISIS QUIMICO / CHEMICAL ANALYSIS														
PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T40042		0.310	0.180	0.670	0.012	0.001	0.270	0.040	0.052	0.006	0.020	0.000	0.000
CF	T38336		0.320	0.190	0.670	0.011	0.003	0.270	0.050	0.072	0.016	0.040	0.000	0.000
CF	T37515		0.310	0.180	0.670	0.009	0.001	0.280	0.050	0.059	0.024	0.040	0.000	0.000
CF	S27721		0.340	0.200	0.740	0.011	0.001	0.290	0.040	0.050	0.010	0.027	0.001	0.002
HF	T39854		0.310	0.180	0.690	0.013	0.002	0.290	0.040	0.056	0.008	0.030	0.000	0.000
HF	T39049		0.300	0.170	0.670	0.009	0.002	0.290	0.050	0.056	0.010	0.030	0.000	0.000

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) certs conform to ASTM A106 Grade B N°. 8035497 8023203 8007257 434116 8037442 8023199

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 520°C-950°C, enfriado al aire. Formado en frío normalizado a 940°C max. Holding time 10'. Inspeccion Dimensional: Satisfactoria.  
HF: FORMADO EN CALIENTE/HOT FORMED

Notes:  
Hot formed fittings in a range from 620°C to 990°C, cooled in still air. Cold formed normalized at 940°C max. Holding time 10'. Visual dimensional check: Satisfactory  
CF: FORMADO EN FRIJO/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 / The values of hardness Brinell HBW by means of table WILSON DESK CHART 60 from the conversion of hardness Rockwell B to hardness Brinell HBW are true and smaller ones obtain Los valores de dureza para conexiones de NPS de 2 1/2" y menores, se obtienen de la tabla de dureza Rockwell B a dureza Brinell HBW mediante la tabla WILSON DESK CHART 60.

Quality Manager/Jefe de Calidad:  
ING. WALDO GALLEGOS GALVAN