



Tubos de Acero de México, S.A.  
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**CERTIFICADO DE CALIDAD  
 INSPECTION CERTIFICATE**  
 ( DIN EN 10204:2004E - ISO 10474 3.1.B )

Numero:  
 Number: 22275  
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Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 5942 - 5949 - 5931 - 5952 - 5950 - 5743 -	Lista de Empaque: Packing List: 11321	Fecha/Date: 4 de Marzo de 2009
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234M WPB-07, NACE MR 01.75-2003 Conform to ASME II Ed. 2001 ASME SA-234M Grade WPB, NACE MR0103-2003	Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2007 and ASME B 16.28 - 1994	Factura/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	T40298	6	TEE 10 CED-STD	305	477	36	119					
24	T39319	9	CODO 12 X 45° SHC-80	260	468	34	92					
25	S25531	25	CODO 5 X 90° R.L. CED-STD	300	482	36	105					
26	T42161	4	TEE RED. 6 X 3 CED-STD	369	512	32	102					
27	T42161	3	TEE RED. 6 X 4 CED-STD	311	479	42	120					
28	T43329	7	TEE RED. 6 X 4 CED-STD	320	494	42	120					
29	UA3	10	RED. CONC. 2 1/2 X 11/4 CED-XS	356	526	30	143					
30	S69900	40	CODO 2 1/2 X 90° R.C. CED-STD	318	485	33	142					

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	T40298	40298	0.320	0.190	0.670	0.007	0.003	0.280	0.050	0.079	0.023	0.040	0.000	0.000
HF	T39319	39319	0.290	0.170	0.670	0.008	0.001	0.270	0.030	0.047	0.008	0.020	0.000	0.000
HF	S25531	25531	0.320	0.180	0.730	0.010	0.001	0.320	0.040	0.040	0.020	0.027	0.001	0.001
HF	T42161	42161	0.310	0.180	0.670	0.016	0.001	0.280	0.040	0.050	0.009	0.020	0.000	0.000
HF	T42161	42161	0.290	0.170	0.660	0.015	0.001	0.280	0.040	0.049	0.008	0.020	0.000	0.000
HF	T43329	43329	0.310	0.180	0.680	0.012	0.000	0.300	0.040	0.044	0.017	0.020	0.000	0.000
CF	UA3	67641	0.339	0.196	0.741	0.005	0.001	0.306	0.040	0.082	0.018	0.034	0.002	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

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°: 8062567 8043095 412367 9002655 9002335 9007104 100772 257125

"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 frío normalizado a 940°C max.  
 Tiempo de permanencia 10'.  
 Inspección Dimensional: Satisfactoria.  
 HF: FORMADO EN CALIENTE/HOT FORMED

Notes:  
 Hot 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'.  
 Visual dimensional check: Satisfactory  
 CF: FORMADO EN FRIO/COLD 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.