Tubos de Acero de México, S.A.
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L. Méx.
(52) 81 8305 9600 tel.
(52) 81 8305 9630 fax.

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

Numero: Number:	Pagina/Page:
24860	1

Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 10963	Lista de Empaque: Packing List: 12804	Fecha/Date: 25 de Agosto de 2011

Especificaciones y Grados / Standard or Specification and Steel Grade **Seamless Fittings according to ASTM A 234 WPB-07, NACE MR 01.75-2003** **Conform to ASME II Ed. 2001 ASME SA-234,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
1	T49702	1	CODO 16 X 45° CED-STD	335	507	32	132					
2	T52935	9	CODO 16 X 45° CED-STD	346	495	42	122					
3	S42357	20	CODO 6 X 90° R.C. CED-STD	284	473	37	130					
4	T55440	60	CODO 6 X 45° CED-STD	311	474	40	122					
5	S42774	80	CODO 4 X 45° CED-STD	325	505	33	140					
6	S44010	22	CODO 3 X 45° CED-STD	316	484	31	128					
7	S42141	5	CODO 3 X 45° CED-STD	348	526	31	124					
8	S42140	4	CODO 3 X 45° CED-STD	327	494	32	116					
9	T51817	5	CODO 3 X 45° CED-STD	358	507	35	120					
10	T51345	11	CODO 3 X 45° CED-STD	354	490	36	88					
11	T50878	3	CODO 3 X 45° CED-STD	357	503	35	122					

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	T49702	49702	0.300	0.170	0.690	0.011	0.002	0.280	0.030	0.051	0.022	0.030	0.000	0.000
HF	T52935	52935	0.320	0.190	0.660	0.007	0.002	0.280	0.040	0.067	0.017	0.040	0.000	0.000
HF	S42357	42357	0.330	0.190	0.750	0.012	0.001	0.310	0.030	0.040	0.010	0.019	0.002	0.002
HF	T55440	55440	0.300	0.170	0.690	0.008	0.001	0.290	0.040	0.060	0.013	0.030	0.000	0.000
HF	S42774	42774	0.320	0.180	0.750	0.012	0.002	0.300	0.040	0.024	0.010	0.015	0.002	0.002
HF	S44010	44010	0.330	0.200	0.730	0.009	0.001	0.300	0.020	0.020	0.010	0.013	0.002	0.002
HF	S42141	42141	0.340	0.190	0.800	0.010	0.001	0.330	0.030	0.040	0.010	0.028	0.002	0.002
HF	S42140	42140	0.330	0.190	0.750	0.009	0.001	0.290	0.030	0.019	0.010	0.011	0.002	0.002
HF	T51817	51817	0.320	0.180	0.730	0.013	0.002	0.300	0.040	0.053	0.026	0.030	0.000	0.000
HF	T51345	51345	0.310	0.170	0.700	0.012	0.001	0.290	0.060	0.061	0.015	0.030	0.000	0.000
HF	T50878	50878	0.300	0.180	0.650	0.014	0.001	0.290	0.040	0.050	0.014	0.030	0.000	0.000

Certificamos que los resultados de los Análisis Químicos y Pruebas Mecánicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con Nº:

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 suplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B Nº:

10032879 11013923 10053977 11030361 10058144 11008315
10057995 11007340 10056328 10055648 10055648

"Este material cumple con los requerimientos especificados en la orden".

"The material of this certificate heat number mentioned above is in compilance with the requirements specified in the order".

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

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.

CC-008