



Tubos de Acero de México, S.A.  
Carr. Mty-Laredo Km 24.2  
Apartado Postal 43  
(65550) C. de Flores, N.L. Méx.  
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**CERTIFICADO DE CALIDAD  
INSPECTION CERTIFICATE**  
( DIN EN 10204:2004E - ISO 10474 3.1.B )

Numero:  
Number:  
25947

Pagina/Page:  
1

Fecha/Date:  
25 de Junio de 2012

Vendido a:  
Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.

Pedido del Cliente No: 12812 - 12701 - 13281 - 12885 - 13083 -  
Customers Order No: 13097 - 12854 - 12942

Lista de Empaque:  
Packing List: 13462

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

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	T60764	300	CODO 6 X 90° R.L. CED-STD.	313	471	34	150					
2	T60505	20	TEE 6 CED-XS	247	450	39	141					
3	T60717	36	CODO 12 X 90° R.L. CED-STD	332	487	37	140					
4	T60717	20	CODO 12 X 45° CED-STD	332	487	37	140					
5	T60105	60	CODO 10 X 90° R.L. CED-STD	289	489	37	151					
6	T59630	5	RED. CONC. 12 X 10 CED-80	377	473	34	140					
7	S47300	13	CODO 5 X 45° CED-STD	299	478	31	110					
8	T61275	9	CODO 16 X 90° R.L. CED-STD	282	464	35	150					
9	T51581	6	RED. CONC. 14 X 8 CED-XS	326	489	33	103					
10	T49808	2	RED. CONC. 14 X 8 CED-XS	320	491	38	95					
11	S44855	8	CODO 4 X 90° R.C. CED-XS	300	468	37	114					

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	T60764	60764	0.300	0.170	0.680	0.015	0.001	0.280	0.050	0.052	0.022	0.030	0.000	0.000
HF	T60505	60505	0.310	0.170	0.660	0.014	0.001	0.280	0.060	0.080	0.026	0.040	0.000	0.000
HF	T60717	60717	0.310	0.180	0.670	0.011	0.004	0.290	0.040	0.067	0.022	0.030	0.000	0.000
HF	T60717	60717	0.310	0.180	0.670	0.011	0.004	0.290	0.040	0.067	0.022	0.030	0.000	0.000
HF	T60105	60105	0.310	0.180	0.670	0.015	0.001	0.290	0.050	0.080	0.014	0.030	0.000	0.000
CF	T59630	59630	0.320	0.190	0.660	0.009	0.001	0.280	0.040	0.059	0.024	0.040	0.000	0.000
HF	S47300	47300	0.340	0.200	0.750	0.012	0.001	0.290	0.030	0.030	0.010	0.015	0.001	0.002
HF	T61275	61275	0.300	0.170	0.680	0.018	0.002	0.310	0.040	0.072	0.034	0.030	0.000	0.000
CF	T51581	51581	0.350	0.190	0.850	0.009	0.001	0.300	0.050	0.067	0.016	0.040	0.000	0.000
CF	T49808	49808	0.310	0.180	0.680	0.009	0.002	0.290	0.050	0.062	0.018	0.030	0.000	0.000
HF	S44855	44855	0.330	0.190	0.740	0.009	0.002	0.290	0.030	0.041	0.020	0.018	0.001	0.001

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 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°:  
12038071 12030443 12034881 12034881 12027519 12017284 11061963 12038244 12011720 10036108 314084  
"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.