



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

Numero:  
Number: 25779  
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Tubos de Acero de México  
Caf. Mty-Laredo Km 24.3  
Apartado Postal 43  
(5550) C. de Flores, N.L.  
(52) 81 8305 9600 tel.  
(52) 81 8305 9630 fax.

Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 12701 - 12885 -	Lista de Empaque: Packing List: 13349	Fecha/Date: 14 de Mayo de 2012
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	T59443	36	CODO 8 X 90° R.L. CED-XS	313	479	37	141					
2	T58293	1	CODO 12 X 90° R.L. CED-STD	279	460	36	95					
3	T59684	2	CODO 12 X 90° R.L. CED-STD	293	480	35	144					
4	T56767	1	CODO 12 X 90° R.L. CED-STD	355	509	32	95					
5	T59519	14	CODO 12 X 90° R.L. CED-STD	282	468	32	144					
6	T57980	60	CODO 8 X 90° R.L. CED-STD	311	468	38	141					

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	T59443	59443	0.330	0.180	0.760	0.014	0.001	0.280	0.060	0.055	0.017	0.030	0.000	0.000
HF	T58293	58293	0.310	0.180	0.670	0.006	0.002	0.290	0.060	0.054	0.016	0.030	0.000	0.000
HF	T59684	59684	0.310	0.180	0.650	0.017	0.002	0.270	0.060	0.071	0.023	0.040	0.000	0.000
HF	T56767	56767	0.320	0.180	0.690	0.014	0.002	0.270	0.040	0.069	0.026	0.040	0.000	0.000
HF	T59519	59519	0.310	0.180	0.670	0.017	0.001	0.310	0.040	0.080	0.013	0.040	0.000	0.000
HF	T57980	57980	0.310	0.180	0.680	0.011	0.001	0.280	0.040	0.060	0.015	0.040	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 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°:  
12017293 12016841 12026667 11039058 12016821 12011715  
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

*Waldo Gallegos*  
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.

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