

**CERTIFICADO DE CALIDAD  
INSPECTION CERTIFICATE**

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

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  
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Vendido a: Sold to:	PLESA ANAHUAC Y CIA. S. A. DE C. V.	3508 - 3645 - Customers Order No:	Lista de Empaque: Packing List:	9 8 2 8	Fecha/Date:	30 de Octubre de 2007
Especificaciones y Grados / Standard or Specification and Steel Grade	Dimensiones y tolerancias / Dimension and tolerances					
Seamless Fittings according to ASTM A 234" M" WPB-97, A234" M" WPB-05a, NACE MR 01.75-2003 Conform to ASME II Ed. 2001 ASME SA-234" M", Grade WPB.	ASME B 16.9 - 2003 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	S45402	30	CODO 2 1/2 X 45° CED-XS	294	466	36	130					
24	S38130	42	CODO 1 1/2 X 90° R.C. CED-STD	347	489	39	118					
25	S21394	20	CODO 2 X 90° R.C. CED-STD	302	472	28	133					

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	S45402	45402	0.320	0.180	0.740	0.010	0.001	0.290	0.040	0.045	0.020	0.022	0.001	0.001
HF	S38130	38130	0.313	0.180	0.710	0.009	0.001	0.280	0.030	0.043	0.020	0.022	0.001	0.001
HF	S21394	21394	0.310	0.180	0.720	0.011	0.001	0.260	0.030	0.036	0.010	0.021	0.001	0.001

**Notas:**  
 Formado en caliente a 620°C-960°C, enfriado al aire; Formado en frío normalizado a 940°C max. Holding time 10'.  
 Visual dimensional check: Satisfactory.  
 CF: FORMADO EN CALIENTE/HOT FORMED

**Notas:**  
 Hot formed fittings in a range from 620°C to 960°C, cooled in still air.  
 Cold formed normalized at 940°C max.  
 Holding time 10'.  
 Visual dimensional check: Satisfactory.  
 CF: FORMADO EN FROIO/COLD FORMED

Jefe de Calidad:  
Quality Manager:

ING. JOSE MARTINEZ MACIAS

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.

CC-008

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 (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°:  
 317311 258860 373275

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".