

**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  
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Vendido a:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No:	4440-4572-	Lista de Empaque:	10524	Fecha/Date:	30 de Mayo de 2008
Sold to:		Customers Order No:		Packing List:			
Especificaciones y Grados / Standard or Specification and Steel Grade		Dimensiones y tolerancias / Dimension and tolerances		Factura/Invoice:	Bocas / Ends	Biselado / Bevelled ends	
Seamless fittings according to ASTM A 234 "M" WPB-97, A234 "M" WPB-05a, NACE MR 01 75-2003		ASME B 16.9 - 2003 and ASME B 16.28 - 1994					
Conform to ASME II Ed. 2001 ASME SA-234 "M", Grade WPB, NACE MRO 103-2003							

ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	PRUEBAS MECANICAS / MECHANICAL TEST				PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C					
				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	T39507	60	CODO 8 X 90° R. I. CED-XS	283	459	46	124						
2	T35903	1	CODO 10 X 90° R. I. CED-80	296	480	43	89						
3	T32973	19	CODO 10 X 90° R. I. CED-80	266	467	39	89						
4	T25718	15	TEE RED. 12 X 6 CED-80	325	495	38	89						

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	ANALISIS QUIMICO / CHEMICAL ANALYSIS											
			%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T39507	39507	0.300	0.170	0.670	0.012	0.001	0.280	0.050	0.058	0.011	0.030	0.000	0.000
HF	T35903	35903	0.320	0.180	0.710	0.010	0.001	0.280	0.040	0.052	0.028	0.030	0.000	0.000
HF	T32973	32973	0.320	0.180	0.680	0.011	0.001	0.270	0.070	0.059	0.031	0.040	0.000	0.000
HF	T25718	25718	0.340	0.190	0.820	0.009	0.003	0.200	0.060	0.123	0.024	0.040	0.000	0.000

**Notes:**  
Formado en caliente a 820°C-980°C, enfriado al aire. Formado en frío normalizado a 940°C max. Tiempo de permanencia 10'.  
Inspeccion Dimensional Satisfactoria.  
MF: FORMADO EN CALIENTE/HOT FORMED  
CF: FORMADO EN FRIO/COLD FORMED

**Notes:**  
Hot formed fittings in a range from 820°C to 980°C, cooled in still air. Cold formed normalized at 940°C max. Holding time 10'.  
Visual dimensional check. Satisfactory.  
ING. WALDO GALLEGOS GALVAN

**Quality Manager/Jefe de Calidad:**  
*[Signature]*

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.

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.

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°. 8028051 7041815 7041815 6003233

CC-008