

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

Tubos de Acero de Mexico, S.A.
Carr. Mty-Laredo Km 24.2
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Vendido a: **PLESA ANAHUAC Y CIA. S.A. DE C.V.**
 Sold to: **PLESA ANAHUAC Y CIA. S.A. DE C.V.**
 Especificaciones y Grados / Standard or Specification and Steel Grade
 Seamless fittings according to ASTM A 234 "W" WPB-97, A234 "W" WPB-96a, NACE MR 01.75-2003
 Conform to ASME II Ed. 2001 ASME SA-234 "W" Grade WPB, NACE MR0103-2003
 Pedido del Cliente No.: **4617**
 Customers Order No.: **Dimensiones y tolerancias / Dimension and tolerances**
 ASME B 16.9 - 2003 and ASME B 16.28 - 1994
 Numero: **20450** Pagina/Page: **1 DE 1**
 Listado de Empaque: **10555** Fecha/Date: **12 de Junio de 2008**
 Packing List:
 Factura/Invoice: **Bocas / Ends**
 Biselado / Bevelled ends

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. RUPURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules		
1	T38541	12	CODO 14 X 90° R. I. CED-STD	299	486	43	120							
2	T29807	16	CODO 10 X 90° R. I. CED-20	340	495	38	88							

ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA HEAT CODE	COLADAH/HEAT M.P/MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%SI	%Cr	%Cu	%Mo	%NI	%V	%Nb
HF	T38541	38541	0.300	0.170	0.570	0.007	0.001	0.280	0.050	0.072	0.013	0.040	0.000	0.000
HF	T29807	29807	0.310	0.170	0.560	0.007	0.003	0.280	0.060	0.084	0.048	0.040	0.000	0.000

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 (Tuberia 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°
 8016392 7000399

Notes:
 Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frío normalizado a 940°C max.
 Heat formed fittings in a range from 620°C to 980°C, cooled in still air.
 Cold formed normalized at 940°C max.
 Tiempo de permanencia 10'.
 Holding time 10'.
 Inspección Dimensional: Satisfactoria.
 Visual dimensional check: Satisfactory
CF: FORMADO EN FRIO/COLD FORMED
CF: FORMADO EN CALIENTE/HOT FORMED
 Quality Manager/ jefe de Calidad:
ING. WALDO GALLEGOS GALVAN
 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.
 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