

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

Tubos de Acero de México, S.A.
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Vendido a: **PIESA ANAHUAC Y CIA. S.A. DE C.V.** Pedido del Cliente No: **4107 -**
 Sold to: **PIESA ANAHUAC Y CIA. S.A. DE C.V.** Customers Order No: **4107 -**
 Especificaciones y Grados / Standard or Specification and Steel Grade **Dimensiones y tolerancias / Dimension and tolerances**
 Seamless Fittings according to ASTM A 234 "W" WPB-07, A234 "W" WPB-08a, NACE MR 01.75-2003
 Conform to ASME II Ed. 2001 ASME SA-234 "W", Grade WPB. **ASME B 16.9 - 2003 and ASME B 16.28 - 1994**

Lista de Empaque: **10174** Fecha/Date: **7 de Febrero de 2008**
 Packing List: **Bocas / Ends**
Biselado / Bevelled ends

Numero: **19733** Pagina/Page: **1 DE 1**
 Factoral/invoice: **Bocas / 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. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	Joules	Joules	Joules	PROMEDIO AVERAGE Joules
23	T19162	4	TEE 5 CED-STD	336	469	38	119	1	Joules	Joules	Joules	
24	T33854	8	RED. CONC. 12 X 6 CED-XS	303	471	39	93					
25	T31899	2	RED. CONC. 12 X 6 CED-XS	285	462	37	90					
26	T33902	120	CODO 1 X 90° R.I. CED-XS	294	418	54	135					
27	T21227	50	CODO 1 X 45° CED-STD	289	417	51	122					

ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA HEAT CODE	COLADAYHEAT M.P.MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%SI	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T19162	19162	0.310	0.180	0.660	0.009	0.003	0.280	0.050	0.063	0.040	0.030	0.000	0.000
CF	T33854	33854	0.300	0.170	0.660	0.007	0.002	0.290	0.040	0.051	0.029	0.030	0.000	0.000
CF	T31899	31899	0.310	0.180	0.660	0.008	0.002	0.300	0.060	0.069	0.029	0.030	0.000	0.000
HF	T33902	33902	0.280	0.149	0.564	0.012	0.001	0.191	0.052	0.049	0.022	0.039	0.000	0.000
HF	T21227	21227	0.290	0.160	0.650	0.009	0.001	0.250	0.060	0.021	0.040	0.022	0.001	0.000

Verdaderos o una copia fiel de los certificados enviados por el fabricante y/o el proveedor de Materia Prima (Tubería Sin Costura) conforme ASTM A 106 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°: 4028098 7020189 6043714 5892 6612

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.

Jefe de Calidad:
Quality Manager:

ING. JOSE MARAÑEZ MACIAS
 CC-008

Notes:
 Formado en caliente a 620°C-980°C, enfriado al aire.
 Formed in the range from 620°C to 980°C, cooled in still air.
 Formado en frío normalizado a 940°C max.
 Cold formed normalized at 940°C max.
 Tiempo de permeancia 10'.
 Holding time 10'.
 Inspeccion Dimensional Satisfactoria.
 Visual dimensional check: Satisfactory.
 HF: FORMADO EN CALIENTE/HOT FORMED
 CF: FORMADO EN FRIO/COLD FORMED