

**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., Mex.
(52) 81 8305 9600 tel
(52) 81 8305 9620 fax

Vendido a:	PIESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No:	5307 -	Lista de Empaque:	10975	Fecha/Date:	30 de Octubre de 2008
Sold to:		Customers Order No:		Packing List:		Factura/Invoice:	Bocas / Ends
Especificaciones y Grados / Standard or Specification and Steel Grade		Dimensiones y tolerancias / Dimension and tolerances				Biselado / Bevelled ends	
Seamless Fittings according to ASTM A 234 "W" WPB-97, A234 "W" 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 "W" Grade WPB, NACE MR0103-2003							

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	T33433	2	CODO 14 X 90° R.L. CED-40	347	500	34	84					
2	T40156	9	CODO 14 X 90° R.L. CED-40	273	476	37	133					
3	T36927	3	CODO 14 X 45° CED-40	312	474	36	88					

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
HIF	T33433	33433	0.310	0.170	0.690	0.011	0.004	0.280	0.050	0.053	0.026	0.030	0.000	0.000
HIF	T40156	40156	0.300	0.170	0.700	0.011	0.001	0.290	0.040	0.049	0.006	0.030	0.000	0.000
HIF	T36927	36927	0.310	0.180	0.660	0.009	0.001	0.270	0.040	0.049	0.032	0.030	0.000	0.000

Notes:
Formado en caliente a 620°C-980°C, enfriado al aire, Formado en frío normalizado a 940°C max.
Tiempo de permanencia 10'

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'

Inspección Dimensional: Satisfactoria. Visual dimensional check: Satisfactory

CF: FORMADO EN CALIENTE/HOT FORMED CF: FORMADO EN FRIO/COLD FORMED

Quality Manager/Jefe de Calidad:
[Signature]
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.

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°.

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