



Tubos de Acero de México, S.A.  
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**CERTIFICADO DE CALIDAD  
 INSPECTION CERTIFICATE**  
 (DIN EN 10204 3.1 B - ISO 10474 3.1 B)

Vendido a: **PIESA ANAHUAC** Pedido del Cliente No: **1150 1151 1019** Fecha/Date: **24 de Marzo de 2006**  
 Solid to: **ESPECIFICACIONES Y GRADOS / Standard or Specification and Steel Grade** Customers Order No:  
**Seamless Fittings according to ASTM A 234-97, A234-92/ ASME AISA 234 WPB -** Dimensiones y tolerancias / Dimension and tolerances  
**NACE MR 01.75-2003 - Conform to ASME II Ed. 2001** ASME B 16.9 and ASME B 16.28 edition 2001

ART ITEM	COLADA HEAT CODE	CANTIDA QUANTITY	DESCRIPCION / DESCRIPTION	ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %Z	DUREZA HARDNESS HB	DIMENSIONES SAMPLE DIM (mm)	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	RO5	1	ELLS 14 X 45 SCH-XH	329	499	46	143					
2	T21704	4	ELLS 14 X 45 SCH-XH	325	474	42	124					
3	S26122	1	ELLS 2 1/2 X 45 SCH-STD	316	471	37	138					
4	S32202	49	ELLS 2 1/2 X 45 SCH-STD	344	497	50	150					
5	T26889	36	ELLS 6 X 45 SCH-STD	287	441	40	112					
6	T25752	20	ELLS 8 X 45 SCH-STD	306	478	42	116					
7	HL5	50	CAPS 2 1/2 SCH-STD	41309	64872	38	156					
8	HM5	24	CAPS 2 SCH-STD	373	508	30	156					
9	HX5	20	CAPS 4 SCH-XH	300	439	34	156					
10	T25669	10	CONC. FED 10 X 6 SCH-STD	336	494	47	109					
11	T25231	10	CONC. FED 10 X 8 SCH-STD	319	492	42	121					

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C E.	%C	%Mn	%P	%S	%SI	%CF	%CU	%MO	%NI	%V	%NB
HF	RO5	99413	0.344	0.180	0.860	0.009	0.003	0.270	0.050	0.058	0.022	0.030	0.000	0.000
HF	T21704	21704	0.315	0.180	0.670	0.007	0.002	0.280	0.050	0.072	0.035	0.030	0.000	0.000
HF	S26122	26122	0.309	0.180	0.730	0.009	0.001	0.300	0.010	0.030	0.010	0.010	0.001	0.001
HF	S32202	32202	0.329	0.190	0.300	0.010	0.001	0.300	0.400	0.044	0.020	0.021	0.001	0.001
HF	T26889	26889	0.313	0.170	0.680	0.010	0.001	0.280	0.060	0.079	0.043	0.050	0.000	0.000
HF	T25752	25752	0.315	0.180	0.680	0.008	0.002	0.280	0.050	0.077	0.021	0.030	0.000	0.000
CF	HL5	73895	0.252	0.160	0.550	0.009	0.003	0.159	0.001	0.001	0.001	0.001	0.001	0.001
CF	HM5	183632	0.262	0.160	0.610	0.009	0.006	0.189	0.000	0.000	0.000	0.000	0.001	0.001
CF	HX5	466118	0.286	0.150	0.780	0.012	0.012	0.210	0.020	0.010	0.001	0.020	0.001	0.001
CF	T25669	25669	0.312	0.170	0.680	0.008	0.001	0.270	0.060	0.073	0.044	0.040	0.000	0.000
CF	T25231	25231	0.315	0.170	0.680	0.009	0.005	0.280	0.070	0.133	0.023	0.060	0.000	0.000

Notas:  
 Formado en cámara a 760°C-840°C, enfriado al  
 aire. Formado en frío normalizado a 840°C max.  
 Hot formed fittings in a range from 760°C to 840°C, cooled in still air.  
 Cold formed normalised at 840°C max.  
 Tiempo de permanencia 10'  
 Holding time 10'  
 Inspección Dimensional Satisfactoria  
 Visual Dimensional Check Satisfactory  
 HF FORMADO EN CALIENTE/NOT FORMED  
 CF FORMADO EN FRIJO/COLD FORMED

Certificamos que los resultados de los Análisis Químicos y Pruebas Mecánicas  
 son verdaderos o una copia fiel de los certificados enviados por el Fabricante  
 y/o el proveedor de Materia Prima conforme ASTM A106/Grade 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 certs conform to ASTM A106 Grade B N°  
 03000990 05006749 165675  
 207960 06002814 05029650  
 41650 41650  
 05028329 05026636  
 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 Aseguramiento de Calidad:  
 Quality Assurance Coordinator  
 ING. JOSE MARTINEZ MACIAS

CC-008