

Tubos de Acero de México, S.A.
 Carr. Mty-Laredo Km 24.2
 Apartado Postal 43
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**CERTIFICADO DE CALIDAD
 INSPECTION CERTIFICATE
 (DIN EN 10204 3.1 B - ISO 10474 3.1 B)**

Vendido a: **PIESA ANAHUAC**
 Sold to: **PIESA ANAHUAC**
 Especificaciones y Grados / Standard or Specification and Steel Grade
 Seamless Frings according to ASTM A 234-47, A234-42/ ASME ASA 234 WPB.
 MACE MIR 01.75-2003 - Conform to ASME II ED. 2001

Pedido del Cliente No: **897**
 Customers Order No: **897**
 Dimensiones y tolerancias / Dimension and tolerances

Lista de Empaque: **8016**
 Packing List: **8016**
 Fecha/Date: **1 de Febrero de 2006**
 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. RUPTURA TENSILE STRENGTH (Mpa)	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules
1	T25705	6	ELLS 16 X 45 SCH-STD	327	490	1			
2	T25705	18	ELLS 16 X 90 L.R. SCH-STD	327	490	1			
3	S32536	35	ELLS 3 X 90 S.R. SCH-STD	327	488	1			
4	S35971	30	ELLS 4 X 90 S.R. SCH-STD	349	485	1			
5	S37918	456	ELLS 4 X 90 L.R. SCH-STD	347	493	1			
6	T26621	10	ELLS 8 X 90 L.R. SCH-XH	307	480	1			
7	T20958	20	CONC. RED. 6 X 3 SCH-STD	305	480	1			
8	T25509	20	CONC. RED. 8 X 6 SCH-STD	378	505	1			
9	T25112	10	RED. TEE 10 X 4 SCH-STD	345	494	1			

ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA HEAT CODE	COLADA HEAT M.P./MOTHER PIPE	%C	%Mn	%P	%S	%SI	%Cr	%Cu	%MO	%NI	%V	%NB
HF	T25705	25705	0.331	0.180	0.770	0.012	0.003	0.270	0.060	0.075	0.015	0.040	0.000
HF	T25705	25705	0.331	0.180	0.770	0.012	0.003	0.270	0.060	0.075	0.015	0.040	0.000
HF	S32536	32536	0.338	0.190	0.820	0.009	0.001	0.300	0.020	0.031	0.020	0.018	0.001
HF	S35971	35971	0.337	0.140	1.050	0.013	0.001	0.240	0.050	0.052	0.040	0.001	0.001
HF	S37918	37918	0.345	0.200	0.710	0.010	0.001	0.300	0.050	0.072	0.030	0.090	0.001
HF	T26621	26621	0.322	0.180	0.700	0.010	0.001	0.270	0.050	0.082	0.029	0.060	0.001
CF	T20958	20958	0.352	0.190	0.840	0.009	0.002	0.280	0.040	0.077	0.034	0.030	0.000
CF	T25509	25509	0.316	0.180	0.670	0.010	0.002	0.280	0.040	0.087	0.038	0.040	0.000
CF	T25112	25112	0.333	0.190	0.690	0.009	0.001	0.290	0.070	0.074	0.034	0.030	0.000

PRUEBAS MECANICAS / MECHANICAL TEST

ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	DUREZA HARDNESS HB
327	490	124
327	490	124
327	488	124
349	485	102
347	493	116
307	480	111
305	480	121
378	505	106
345	494	106

PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C

DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1				

ANÁLISIS QUIMICO / CHEMICAL ANALYSIS

Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecanicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante u/o el proveedor de Materia Prima conforme ASTM A106/GradesB 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°:

05028713	05028713	207922
238270	257852	06000795
05005056	05026637	05024739

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.

Notas:
 Formado en caliente a 780°C-840°C, enfriado al aire.
 Formed in hot normalized at 840°C max.
 Tiempo de Permeabilidad 10'.
 Holding time 10'.
 Inspeccion Dimensional Satisfactoria.
 Visual dimensional check: Satisfactory.
 HF FORMADO EN CALIENTE/HOT FORMED
 CF FORMADO EN FRIJO/COLD FORMED

Jefe de Aseguramiento de Calidad:
 Quality Assurance Coordinator
 ING. JOSE MARTINEZ MACIAS

CC-008