



**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
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Vendido a: PLESA ANAHUAC Y CIA. S.A. DE C.V. Pedido del Cliente No: 3910 - 3939 - 3925 Fecha/Date: 9 de Enero de 2008

Sold to: Especificaciones y Grados / Standard or Specification and Steel Grade Dimensiones y tolerancias / Dimension and tolerances

Seamless fittings according to ASTM A 234 "M" WPB-97, A234 "M" WPB-05a, NACE MR 0175-2003 ASME B 16.9 - 2003 and ASME B 16.28 - 1994

Factura/Invoice: Bocas / Ends
Biselado / Bevelled ends

DESCRIPCION DE MATERIAL / MATERIAL DESCRIPTION

ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPATURA TENSILE STRENGTH (Mpa)	ELONG %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	T28586	6	CODO 16 X 45° CED-STD	363	500	32	119					
2	T36485	100	CODO 6 X 90° R.I. CED-STD	327	484	35	89					
3	S21394	100	CODO 2 X 90° R.I. CED-STD	302	472	28	133					
4	S22585	159	CODO 2 1/2 X 90° R.I. CED-STD	331	485	30	125					
5	S22312	641	CODO 2 1/2 X 90° R.I. CED-STD	324	498	30	123					
6	T36860	40	CODO 8 X 45° CED-STD	332	517	35	90					
7	S21042	220	RED. CONC 3 X 2 CED-STD	310	478	32	119					
8	T34687	4	CODO 16 X 45° CED-XS	327	496	42	100					
9	T35794	4	TEE RED. 8 X 6 CED-STD	347	502	33	87					
10	T36285	16	CODO 10 X 90° R.I. CED-80	282	474	44	88					
11	T35002	5	CODO 12 X 45° SHC-80	286	484	42	84					

ANALISIS QUIMICO / CHEMICAL ANALYSIS

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T28586	28586	0.300	0.170	0.650	0.012	0.002	0.280	0.060	0.079	0.031	0.030	0.000	0.000
HF	T36485	36485	0.330	0.180	0.770	0.012	0.002	0.300	0.040	0.065	0.021	0.030	0.000	0.000
HF	S21394	21394	0.310	0.180	0.720	0.011	0.001	0.260	0.030	0.035	0.010	0.021	0.001	0.001
HF	S22585	22585	0.310	0.170	0.760	0.012	0.001	0.270	0.040	0.026	0.010	0.022	0.001	0.002
HF	S22312	22312	0.320	0.180	0.750	0.011	0.001	0.300	0.030	0.019	0.010	0.011	0.001	0.002
HF	T36860	36860	0.310	0.170	0.700	0.012	0.002	0.300	0.070	0.051	0.022	0.030	0.000	0.000
CF	S21042	21042	0.330	0.190	0.750	0.010	0.001	0.280	0.050	0.025	0.020	0.031	0.001	0.001
HF	T34687	34687	0.330	0.180	0.740	0.009	0.003	0.280	0.070	0.083	0.030	0.030	0.000	0.000
HF	T35794	35794	0.330	0.190	0.700	0.013	0.001	0.270	0.040	0.080	0.023	0.040	0.000	0.000
HF	T36285	36285	0.300	0.170	0.650	0.010	0.002	0.270	0.050	0.065	0.029	0.030	0.000	0.000
HF	T35002	35002	0.320	0.180	0.700	0.010	0.002	0.270	0.050	0.072	0.021	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. Hot formed fittings in a range from 620°C to 980°C, cooled in still air. Cold formed normalized at 940°C max.

Timeo de permanencia 10'. Holding time 10'. Visual dimensional check: Satisfactory. Visual dimensional check: Satisfactory.

Inspeccion Dimensional: Satisfactoria. CF FORMADO EN FRIO/COLD FORMED

HF FORMADO EN CALIENTE/HOT FORMED

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.

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°.

7011275 7054704 371740 386255 379462 7058240 368889
7058018 7040871 7048665 7034834

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.

Jefe de Calidad:
Quality Manager:

ING. JOSE MARTINEZ MACIAS

CC-008