



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

Numero:
Number:

19552

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Tubos de Acero de México, S.A.
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Vendido a: PLESA ANAHUAC Y CIA. S.A. DE C.V. Pedido del Cliente No: 3925 - 3910 Lista de Empaque: 10074 Fecha/Date: 9 de Enero de 2008
Sold to: Customers Order No: Packing List:

Especificaciones y Grados / Standard or Specification and Steel Grade Dimensiones y tolerancias / Dimension and tolerances Factura/Invoice:
Seamless Fittings according to ASTM A 234"M" WPB-97, A234"M" WPB-05a, NACE MR 01.75-2003 ASME B 16.9 - 2003 and ASME B 16.28 - 1994 Bocas / Ends
Conform to ASME II Ed. 2001 ASME SA-234"M", Grade WPB. Biselado / Bevelled ends

DESCRIPCION DE MATERIAL / MATERIAL DESCRIPTION				PRUEBAS MECANICAS / MECHANICAL TEST				PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C				
ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	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
12	T33541	8	TEE RED 12 X 8 CED-STD	339	476	37	92					
13	T36472	2	TEE RED 12 X 8 CED-STD	285	488	35	95					
14	S22135	108	CODO 1 1/2 X 45° CED-STD	365	529	48	137					
15	T36223	5	CODO 12 X 45° CED-40	308	486	46	87					
16	T36223	16	TEE RED 8 X 4 CED-STD	314	483	42	87					
17	S45279	27	CODO 3 X 90° R.C. CED-STD	271	471	33	129					
18	S48307	273	CODO 3 X 90° R.C. CED-STD	284	475	33	125					
19	T36472	5	TEE RED 12 X 10 CED-STD	285	488	35	95					
20	T35698	3	TEE RED 6 X 4 CED-STD	322	470	32	89					
21	T36285	5	TEE RED 6 X 4 CED-STD	348	490	30	106					
22	S22585	50	RED CONC 2 1/2 X 1 1/4 CED-STD	339	499	32	124					

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	T33541	33541	0.300	0.170	0.650	0.013	0.002	0.270	0.070	0.063	0.031	0.030	0.000	0.000
HF	T36472	36472	0.330	0.180	0.750	0.013	0.003	0.290	0.060	0.067	0.028	0.030	0.000	0.000
HF	S22135	22135	0.320	0.170	0.800	0.011	0.001	0.300	0.040	0.024	0.010	0.017	0.001	0.002
HF	T36223	36223	0.310	0.170	0.680	0.012	0.001	0.270	0.060	0.080	0.020	0.030	0.000	0.000
HF	T36223	36223	0.300	0.160	0.680	0.013	0.001	0.270	0.050	0.080	0.019	0.040	0.000	0.000
HF	S45279	45279	0.340	0.190	0.740	0.010	0.001	0.290	0.050	0.054	0.030	0.051	0.002	0.001
HF	S48307	48307	0.320	0.180	0.720	0.010	0.001	0.290	0.040	0.029	0.020	0.036	0.001	0.001
HF	T36472	36472	0.330	0.180	0.750	0.013	0.003	0.290	0.060	0.067	0.028	0.030	0.000	0.000
HF	T35698	35698	0.310	0.180	0.670	0.009	0.001	0.280	0.040	0.052	0.024	0.030	0.000	0.000
HF	T36285	36285	0.300	0.170	0.660	0.011	0.002	0.270	0.050	0.066	0.030	0.030	0.000	0.000
CF	S22585	22585	0.310	0.170	0.760	0.011	0.001	0.270	0.040	0.027	0.010	0.022	0.001	0.002

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 (Tuberia Sin Costura) conforme ASTM A106 Grado B con N°: 7024807 7056949 7043236 7048512 7049534 316356 344862 7056949 7039511 7048654 383521

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°: 7024807 7056949 7043236 7048512 7049534 316356 344862 7056949 7039511 7048654 383521

"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 620°C-980°C, enriado al aire. Formado en frío normalizado a 940°C max. Tiempo de permanencia 10'. Inspección Dimensional Satisfactoria. HF: FORMADO EN CALIENTE/HOT FORMED

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'. Visual dimensional check Satisfactory. CF: FORMADO EN FRIO/COLD 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.

Jefe de Calidad: Quality Manager: ING. JOSE MARTINEZ MACIAS CC-008