

**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  
Aparado Postal 43  
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Vendido a: PLESA ANAHUAC Y CIA. S.A. DE C.V. Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V. Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 "M" WPB-97, A234 "M" WPB-05a, NACE MR 01.75-2003 Conform to ASME II Ed. 2001 ASME SA-234 "M", Grade WPB.	Pedido del Cliente No: 3194 Customers Order No:	Lista de Empaque: 9362 Packing List:	Fecha/Date: 10 de Julio de 2007
Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2003 and ASME B 16.28 - 1994	Dimensiones y tolerancias / Dimension and tolerances	Numero: 18287 Pagina/Page: 1 DE 1	Factural/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. CEBENCIA YIELD STRENGTH (Mpa)	ESF. RUPTURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HB	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules		
12	SA4791	50	CODO 3 X 45° CED-STD	336	488	34	121							
13	SA4564	40	CODO 2 X 90° R. I. CED-XS	309	496	34	130							
14	T34197	60	RED. CONC. 8 X 6 CED-STD	330	492	30	90							
15	T34180	50	CODO 8 X 45° CED-STD	274	482	31	91							
16	S21172	92	CODO 4 X 90° R. I. CED-XS	278	467	39	105							
17	SA43766	20	CODO 2 1/2 X 45° CED-STD	314	476	35	142							
18	S26121	2	CODO 2 1/2 X 45° CED-STD	365	499	28	131							
19	SFP6	2	CODO 2 1/2 X 45° CED-STD	340	501	41	141							
20	SA48250	50	RED. CONC. 4 X 3 CED-STD	316	493	32	115							
21	T33052	100	RED. CONC. 6 X 4 CED-STD	371	516	35	91							
22	T29131	4	TEE 6 CED-STD	378	514	33	116							

**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	SA4791	47791	0.335	0.190	0.750	0.010	0.001	0.300	0.050	0.033	0.030	0.018	0.001	0.001
HF	SA4564	45664	0.341	0.200	0.770	0.010	0.001	0.300	0.030	0.022	0.020	0.017	0.001	0.002
CF	T34197	34197	0.320	0.180	0.670	0.008	0.001	0.280	0.070	0.076	0.034	0.040	0.000	0.000
HF	T34180	34180	0.320	0.170	0.750	0.009	0.001	0.270	0.050	0.066	0.024	0.030	0.000	0.000
HF	S21172	21172	0.319	0.180	0.780	0.012	0.001	0.290	0.020	0.021	0.010	0.016	0.001	0.002
HF	SA43766	43766	0.351	0.200	0.810	0.012	0.001	0.280	0.030	0.058	0.020	0.022	0.001	0.001
HF	S26121	26121	0.329	0.190	0.781	0.009	0.001	0.310	0.020	0.030	0.010	0.010	0.001	0.001
HF	SFP6	24928	0.340	0.200	0.730	0.008	0.001	0.310	0.040	0.050	0.020	0.040	0.001	0.001
CF	SA48250	48250	0.309	0.170	0.760	0.007	0.001	0.270	0.030	0.025	0.020	0.014	0.001	0.001
CF	T33052	33052	0.340	0.180	0.830	0.011	0.001	0.290	0.040	0.059	0.022	0.040	0.000	0.000
HF	T29131	29131	0.300	0.170	0.660	0.011	0.001	0.280	0.050	0.087	0.032	0.040	0.000	0.000

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°.

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°.

339273 321679 7024408 7024262 369604 313950 165679  
158103 345432 7009994 6017944

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 Calidad:  
Quality Manager:

ING. JOSE MARTINEZ MACIAS

CC-008

Notas:  
Formado en caliente a 620°C-890°C, enfriado al aire.  
Hot formed in a range from 620°C to 890°C, cooled in still air.  
Cold formed normalized at 940°C max.  
Holding time 10'.  
Visual dimensional check: Satisfactory.  
Inspección Dimensional: Satisfactoria.  
HF: FORMADO EN CALIENTE/HOT FORMED  
CF: FORMADO EN FRIOCOLD FORMED