



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

Tubos de Acero de Mexico, S.A.
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Vendido a: PLESA ANAHUAC Y CIA. S.A. DE C.V. Pedido del Cliente No: 4960-4897-4921-4884-
Sold to: Customers Order No: Dimensiones y tolerancias / Dimension and tolerances

Especificaciones y Grados / Standard or Specification and Steel Grade ASME B 16.9 - 2003 and ASME B 16.28 - 1994
Seamless Fittings according to ASTM A 234 "W" WPB-97, A234 "W" WPB-05a, NACE MR 01.75-2003
Conform to ASME II Ed. 2001 ASME SA-234 "W" Grade WPB, NACE MR0103-2003

Lista de Empaque: 107777 Fecha/Date: 29 de Agosto de 2008
Packing List: Biselado / Bevelled ends

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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)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules		
1	T33356	28	TEE 4 CED-STD	338	502	36	102							
2	T40572	40	CODO 10 X 90° R.I. CED-STD	308	475	33	106							
3	S38254	20	CODO 5 X 90° R.I. CED-XS	389	505	34	93							
4	T39854	18	CODO 12 X 90° R.I. CED-40	345	501	34	102							
5	S37410	14	CODO 5 X 45° CED-XS	335	476	40	139							
6	T36431	6	CODO 8 X 90° R.C. CED-XS	299	453	41	107							
7	T39318	7	CODO 12 X 90° R.I. CED-80	277	470	46	120							
8	T40157	10	CODO 12 X 90° R.I. CED-80	284	474	40	118							
9	S29142	8	CODO 2 X 90° R.C. CED-XS	317	491	31	120							

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M P MOTHER PIPE	ANALISIS QUIMICO / CHEMICAL ANALYSIS											
			%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T33356	33356	0.320	0.180	0.660	0.009	0.001	0.290	0.070	0.058	0.027	0.030	0.000	0.000
HF	T40572	40572	0.300	0.170	0.690	0.008	0.003	0.300	0.040	0.053	0.011	0.030	0.000	0.000
HF	S38254	38254	0.326	0.180	0.740	0.016	0.001	0.290	0.050	0.066	0.030	0.026	0.001	0.000
HF	T39854	39854	0.320	0.190	0.720	0.012	0.002	0.290	0.040	0.054	0.006	0.030	0.000	0.000
HF	S37410	37410	0.308	0.170	0.720	0.014	0.001	0.290	0.040	0.038	0.030	0.018	0.001	0.001
HF	T36431	36431	0.310	0.170	0.690	0.009	0.001	0.270	0.050	0.063	0.022	0.030	0.000	0.000
HF	T39318	39318	0.300	0.170	0.680	0.008	0.001	0.280	0.040	0.057	0.014	0.030	0.000	0.000
HF	T40157	40157	0.300	0.170	0.670	0.010	0.001	0.280	0.040	0.048	0.007	0.030	0.000	0.000
HF	S29142	29142	0.340	0.190	0.770	0.010	0.001	0.280	0.040	0.034	0.030	0.034	0.001	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 normalised at 940°C max.
Holding time 10'.
Visual dimensional check. Satisfactory.
Inspección Dimensional. Satisfactoria.
CF: FORMADO EN FRIO/COLD FORMED

Notes:
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. The values of hardness for fittings NPS 2 1/2" and smaller ones obtain from the conversion of hardness Rockwell B to hardness Brinell HBW by means of table WILSON DESK CHART 60.
Los valores de dureza para conexiones de NPS de 2 1/2" y menores, se obtienen de la conversión de dureza Rockwell B a dureza Brinell HBW mediante la tabla WILSON DESK CHART 60.

Quality Manager/Jefe de Calidad:
ING. WALDO GALLEGOS GALVAN

CC-008