

**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: 3925 - 3910 - 4013 -  
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.

Numero:	19702	Pagina/Page:	1 DE 1
Lista de Empaque:	10161	Fecha/Date:	30 de Enero de 2008
Packing List:		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. RUP.TURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules		
12	T32355	5	TEE RED. 10 X 6 CED-STD	337	489	33	80							
13	T33051	30	RED. CONC. 16 X 12 CED-STD	307	478	34	137							
14	T33433	5	CODO 14 X 45° CED-40	347	500	34	84							
15	HJ5	8	TAPON 16 CED-XS	44363	66618	38	143							
16	T37092	20	RED. CONC. 8 X 5 CED-STD	304	480	42	93							

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	T32355	32355	0.330	0.180	0.740	0.013	0.003	0.310	0.050	0.068	0.031	0.030	0.000	0.000	0.000
CF	T33051	33051	0.320	0.180	0.690	0.011	0.002	0.320	0.060	0.053	0.023	0.030	0.000	0.000	0.000
HF	T33433	33433	0.310	0.170	0.690	0.011	0.004	0.280	0.050	0.053	0.026	0.030	0.000	0.000	0.000
HF	HJ5	280173	0.299	0.170	0.770	0.009	0.008	0.156	0.000	0.000	0.000	0.000	0.001	0.001	0.001
CF	T37092	37092	0.320	0.180	0.690	0.010	0.001	0.280	0.060	0.053	0.018	0.030	0.000	0.000	0.000

**Notes:**  
Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frío normalizado a 940°C max. Tiempo de permanencia 10'.  
Inspección Dimensional: Satisfactoria.

**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.

HF: FORMADO EN CALIENTE/HOT FORMED      CF: FORMADO EN FRIJO/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:  
ING. JOSE MARTINEZ MACIAS

CC-008