

**CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE**

(DIN EN 10204:2004E - ISO 10474 3.1.B)

Tubos de Acero de México, S.A.
Carr. Miy-Laredo Km 24.2
Aparato Postal 43
(65550) C. de Flores, N.L. Méx.
(52) 81 8305 9600 tel
(52) 81 8305 9620 fax

Vendido a:	PIEESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No.:	1999	Fecha/Date:	16 de Octubre de 2006
Sold to:		Customers Order No.:		Factura/Invoice:	Bocas / Ends
Especificaciones y Grados / Standard or Specification and Steel Grade	Seamless Fittings according to ASTM A 234-97, A 234-05a, NACE MR 01.75-2003	Dimensiones y tolerancias / Dimension and tolerances		Biselado / Bevelled ends	
Conform to ASME II Ed. 2001 ASME SA-234, Grade WPB		ASME B 16.9 - 2003 and ASME B 16.28 - 1994			

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 HB	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	T28070	20	CODO 6 X 45° CED-XS	269	431	39	107				
2	S46976	228	CODO 4 X 90° R.I. CED-STD	305	481	32	113				
3	S45459	20	CODO 6 X 90° R.C. CED-STD	300	483	30	109				
4	T26246	2	CODO 8 X 45° CED-XS	298	479	42	116				
5	T29437	7	CODO 8 X 45° CED-XS	302	479	42	116				
6	T29864	11	CODO 8 X 45° CED-XS	314	467	37	91				
7	S43742	45	CODO 3 X 45° CED-STD	367	565	30	102				
8	S30680	2	CODO 3 X 45° CED-STD	332	472	36	130				
9	S33415	3	CODO 3 X 45° CED-STD	347	500	51	103				
10	T29864	60	CODO 8 X 90° R.I. CED-XS	314	467	37	91				
11	T26889	16	CODO 6 X 90° R.I. CED-XS	285	471	42	105				

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	T28070	28070	0.310	0.170	0.660	0.009	0.003	0.290	0.060	0.082	0.042	0.040	0.000	0.000
HF	S46976	46976	0.339	0.190	0.780	0.008	0.001	0.270	0.040	0.037	0.030	0.032	0.001	0.002
HF	S45459	45459	0.326	0.180	0.760	0.010	0.001	0.340	0.050	0.032	0.030	0.022	0.001	0.001
HF	T26246	26246	0.290	0.160	0.670	0.009	0.001	0.270	0.030	0.073	0.027	0.030	0.000	0.000
HF	T29437	29437	0.300	0.170	0.670	0.009	0.001	0.280	0.030	0.073	0.028	0.030	0.000	0.000
HF	T29864	29864	0.300	0.170	0.660	0.006	0.000	0.280	0.050	0.068	0.029	0.040	0.000	0.000
HF	S43742	43742	0.320	0.180	0.750	0.011	0.002	0.300	0.030	0.048	0.020	0.026	0.001	0.001
HF	S30680	30680	0.329	0.190	0.730	0.014	0.002	0.270	0.040	0.054	0.020	0.028	0.001	0.001
HF	S33415	33415	0.339	0.180	0.830	0.014	0.001	0.300	0.050	0.065	0.020	0.033	0.001	0.001
HF	T29864	29864	0.300	0.170	0.660	0.006	0.000	0.280	0.050	0.068	0.029	0.040	0.000	0.000
HF	T26889	26889	0.320	0.170	0.700	0.009	0.002	0.280	0.060	0.080	0.042	0.050	0.000	0.000

Notes: Formado en caliente a 620°C-880°C, enfriado al aire. Hot formed in a range from 620°C to 880°C, cooled in still air.
 Cód formado normalizado a 840°C max. Cold formed normalized at 840°C max.
 Tiempo de permanencia 10'. Holding time 10'.
 Inspección Dimensional Satisfactoria. Visual dimensional check Satisfactory.
 HF: FORMADO EN CALIENTE/HOT FORMED. 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.
 Jefe de Calidad: Quality Manager: ING. JOSE MARTINEZ MACIAS
 CC-008