



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

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

Numero:  
Number:  
22199

Pagina/Page:  
1 DE 1

Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANKER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	5274 - 5275 - 5312	Lista de Empaque: Packing List:	11294	Fecha/Date:	25 de Febrero de 2009
Especificaciones y Grados / Standard or Specification and Steel Grade		Dimensiones y tolerancias / Dimension and tolerances			Factura/Invoice:		
Seamless Fittings according to ASTM A 234M WPB-07, NACE MR 01.75-2003		ASME B 16.9 - 2007 and ASME B 16.28 - 1994			Bocas / Ends		
Conform to ASME II Ed. 2001 ASME SA-234M Grade WPB, NACE MR0103-2003					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
1	T42080	50	TEE 4 CED-XS	319	491	39	124					
2	S33739	27	CODO 2 1/2 X 90° R.L. CED-STD	322	491	31	120					
3	T42699	30	RED. CONC. 10 X 8 CED-XS	328	517	35	102					
4	S31050	1500	CODO 1 1/4 X 90° R.L. CED-STD	367	534	32	130					
5	T31643	17	RED. CONC. 10 X 6 CED-XS	315	481	31	84					
6	T41975	33	RED. CONC. 10 X 6 CED-XS	311	473	42	100					
7	S38130	1	CODO 1 1/2 X 90° R.L. CED-XS	358	524	34	130					
8	S24604	1	CODO 1 1/2 X 90° R.L. CED-XS	337	492	29	112					
9	S24683	100	CODO 1 1/2 X 90° R.L. CED-XS	449	538	30	133					
10	SFO6	1	CODO 1 1/2 X 90° R.L. CED-XS	332	493	42	130					
11	T38477	3	RED. CONC. 16 X 12 CED-STD	310	476	39	99					

ANALISIS QUIMICO / CHEMICAL ANALYSIS															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°: 8068633 480022 8068634 479680 7011048 8063657 258860 163655 160515 160515 8023170 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.
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	T42080	42080	0.320	0.180	0.690	0.009	0.001	0.250	0.060	0.064	0.026	0.040	0.000	0.000	
HF	S33739	33739	0.340	0.200	0.740	0.008	0.001	0.280	0.040	0.032	0.010	0.017	0.001	0.002	
CF	T42699	42699	0.340	0.180	0.830	0.019	0.002	0.320	0.040	0.067	0.024	0.030	0.000	0.000	
HF	S31050	31050	0.330	0.190	0.760	0.007	0.002	0.270	0.030	0.023	0.010	0.013	0.001	0.000	
CF	T31643	31643	0.330	0.180	0.730	0.009	0.002	0.280	0.070	0.086	0.040	0.030	0.000	0.000	
CF	T41975	41975	0.310	0.180	0.690	0.008	0.001	0.270	0.050	0.068	0.019	0.030	0.000	0.000	
HF	S38130	38130	0.313	0.180	0.710	0.009	0.001	0.280	0.030	0.043	0.020	0.022	0.001	0.001	
HF	S24604	24604	0.333	0.190	0.740	0.007	0.001	0.290	0.040	0.030	0.040	0.020	0.001	0.001	
HF	S24683	24683	0.344	0.190	0.790	0.007	0.001	0.280	0.050	0.040	0.040	0.020	0.001	0.001	
HF	SFO6	24683	0.335	0.190	0.790	0.007	0.001	0.280	0.065	0.040	0.040	0.020	0.001	0.001	
CF	T38477	38477	0.310	0.170	0.680	0.008	0.001	0.280	0.050	0.074	0.029	0.040	0.000	0.000	

<p>Notas:</p> <p>Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frío normalizado a 940°C max.</p> <p>Tiempo de permanencia 10'.</p> <p>Inspección Dimensional: Satisfactoria.</p> <p>HF: FORMADO EN CALIENTE/HOT FORMED</p>	<p>Notas:</p> <p>Hot formed fittings in a range from 620°C to 980°C, cooled in still air.</p> <p>Cold formed normalized at 940°C max.</p> <p>Holding time 10'.</p> <p>Visual dimensional check: Satisfactory</p> <p>CF: FORMADO EN FRIO/COLD FORMED</p>	<p>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.</p> <p>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.</p>
--	---	---

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

CC-008