



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

Número:
Number:

23511

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Tabos de Acero de México, S.A.
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Vendido a: Sold to:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	8034 - 8299 - 8141	Lista de Empaque: Packing List:	12008	Fecha/Date:	8 de Junio de 2010
Especificaciones y Grados / Standard or Specification and Steel Grade	Seamless Fittings according to ASTM A 234M WPB-07, NACE MR 01.75-2003 Conform to ASME II Ed. 2001 ASME SA-234M Grade WPB, NACE MR0103-2003	Dimensiones y tolerancias / Dimension and tolerances	ASME B 16.9 - 2007 and ASME B 16.28 - 1994		Factura/Invoice: Bocas / Ends	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
12	T48082	7	CODO 8 X 45° CED-STD	310	478	38	120					
13	T47231	5	CODO 8 X 45° CED-STD	304	478	38	120					
14	T49307	8	CODO 8 X 45° CED-STD	312	487	40	122					
15	S46693	15	CODO 2 1/2 X 45° CED-STD	337	486	32	133					
16	S33739	9	CODO 2 1/2 X 45° CED-STD	322	491	31	120					
17	T40546	10	RED. CONC. 14 X 10 CED-STD	256	472	30	108					
18	T49259	8	TEE RED. 8 X 6 CED-STD	325	488	36	120					
19	S31050	80	CODO 1 1/4 X 90° R.L. CED-STD	367	534	32	130					
20	S31762	30	CODO 5 X 90° R.L. CED-STD	245	446	34	107					
21	T49220	5	TEE RED. 6 X 3 CED-STD	303	467	40	120					
22	S33571	15	CODO 2 1/2 X 45° CED-XS	313	487	34	120					

PLEASA ANAHUAC Y CIA. S.A. DE C.V.
CONTROL DE CALIDAD
FECHA: 10 Jun 2010
FIRMA: E. RUIZ

ANALISIS QUIMICO / CHEMICAL ANALYSIS															Certificamos que los resultados de los Análisis Químicos y Pruebas Mecánicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tubería 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°: 10007842 9065500 10022228 329515 480022 9040856 10021560 457348 466326 10025863 9002244 "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	T48082	48082	0.310	0.180	0.650	0.008	0.002	0.280	0.040	0.068	0.020	0.030	0.000	0.000	
HF	T47231	47231	0.310	0.180	0.650	0.012	0.001	0.280	0.040	0.054	0.023	0.030	0.000	0.000	
HF	T49307	49307	0.310	0.180	0.670	0.012	0.002	0.300	0.030	0.048	0.019	0.020	0.000	0.000	
HF	S46693	46693	0.320	0.180	0.720	0.013	0.001	0.270	0.050	0.038	0.010	0.025	0.001	0.001	
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	T40546	40546	0.320	0.190	0.660	0.010	0.002	0.290	0.040	0.066	0.014	0.030	0.000	0.000	
HF	T49259	49259	0.310	0.170	0.700	0.012	0.002	0.270	0.040	0.074	0.023	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	
HF	S31762	31762	0.330	0.190	0.730	0.013	0.001	0.300	0.040	0.033	0.010	0.031	0.001	0.000	
HF	T49220	49220	0.300	0.170	0.670	0.011	0.003	0.280	0.030	0.066	0.020	0.030	0.000	0.000	
HF	S33571	33571	0.340	0.200	0.750	0.010	0.003	0.270	0.030	0.024	0.010	0.016	0.003	0.002	

Notas: 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. HF: FORMADO EN CALIENTE/HOT FORMED

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. CF: FORMADO EN FRIO/COLD FORMED

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

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.