



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

Numero:  
Number:  
  
25699

Página/Page:  
1

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

Vendido a:  
Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.

Pedido del Cliente No:  
Customers Order No: 12701 - 12427

Lista de Empaque:  
Packing List: 13280

Fecha/Date: 20 de Abril de 2012

Especificaciones y Grados / Standard or Specification and Steel Grade  
Seamless Fittings according to ASTM A 234 WPB-07, NACE MR 01.75-2003  
Conform to ASME II Ed. 2001 ASME SA-234, Grada WPB, NACE MR0103-2003

Dimensiones y tolerancias / Dimension and tolerances  
ASME B 16.9 - 2007

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
1	S40021	456	CODO 4 X 90° R.L. CED-STD	325	470	30	104					
2	S40017	520	CODO 3 X 90° R.L. CED-STD	334	500	30	104					
3	TS7980	10	CODO 8 X 45° CED-IS	285	474	44	123					
4	TS9006	100	CODO 6 X 90° R.L. CED-STD.	334	487	34	104					
5	TS8293	5	RED. CONC. 10 X 8 CED-STD	317	490	41	100					
6	S40017	100	CODO 3 X 45° CED-STD	334	508	30	104					
7	TS8477	40	CODO 6 X 90° R.L. CED-IS	305	486	33	153					
8	TS6767	10	TEE RED. 8 X 4 CED-STD	315	492	45	101					
9	S45279	1	CODO 3 X 45° CED-IS	264	462	36	105					
10	S45917	499	CODO 3 X 45° CED-IS	304	484	34	121					
11	S20337	1	CODO 3 X 45° CED-IS	305	400	34	120					

**ANALISIS QUIMICO / CHEMICAL ANALYSIS**

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	S48021	48021	0.320	0.180	0.730	0.012	0.001	0.290	0.040	0.027	0.020	0.013	0.002	0.002
HF	S48017	48017	0.330	0.180	0.770	0.010	0.001	0.300	0.050	0.032	0.020	0.019	0.002	0.002
HF	TS7980	57980	0.300	0.170	0.670	0.012	0.001	0.270	0.040	0.059	0.025	0.040	0.000	0.000
HF	TS9006	59006	0.320	0.190	0.680	0.014	0.002	0.300	0.040	0.075	0.015	0.040	0.000	0.000
CF	TS8293	58293	0.300	0.170	0.670	0.006	0.002	0.280	0.060	0.052	0.016	0.030	0.000	0.000
HF	S48017	48017	0.330	0.180	0.770	0.010	0.001	0.300	0.050	0.032	0.020	0.019	0.002	0.002
HF	TS8477	58477	0.330	0.180	0.790	0.012	0.002	0.280	0.050	0.069	0.024	0.040	0.000	0.000
HF	TS6767	56767	0.330	0.190	0.700	0.015	0.003	0.270	0.050	0.060	0.025	0.040	0.000	0.000
HF	S45279	45279	0.320	0.180	0.730	0.010	0.001	0.300	0.050	0.055	0.020	0.046	0.001	0.002
HF	S45917	45280	0.320	0.180	0.750	0.012	0.003	0.270	0.040	0.045	0.030	0.038	0.001	0.001
HF	S20337	20337	0.330	0.190	0.740	0.012	0.003	0.290	0.040	0.031	0.020	0.032	0.000	0.000

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 last certificate issued by the manufacturer and/or supplier Raw material (Seamless Pipe) cuts conform to ASTM A106 Grade B N°:  
11058467 11061939 11057971 12016119 12002317 11061939 12011929 11048477 347507 347507 370507  
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.

Notas:  
Hot formed fittings in a range from 620°C to 960°C, cooled to 600 at.  
Formado en caliente a 620°C-960°C, enfriado al 600; Formado en frío normalizado a 940°C max.  
Cold formed normalized at 940°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

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.