

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

Numero:
Number:

22133

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Tubbs 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: 5791

Lista de Empaque:
Packing List: 11264

Fecha/Date:
6 de Febrero de 2009

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
1	S24066	3	CODO 6 X 45° CED-XS	335	469	42	95					
2	S22663	1	CODO 6 X 45° CED-XS	305	477	39	91					
3	S28276	3	CODO 6 X 45° CED-XS	326	482	33	89					
4	S25835	4	CODO 6 X 45° CED-XS	244	451	32	122					
5	S21572	4	CODO 6 X 45° CED-XS	329	455	40	94					
6	S32858	40	CODO 4 X 45° CED-STD	319	491	32	135					
7	T17196	4	CODO 3 X 45° CED-STD	341	509	39	126					
8	S29078	11	CODO 3 X 45° CED-STD	313	482	31	111					
9	23229	1	CODO 3 X 45° CED-STD	363	498	36	127					
10	S21986	1	CODO 3 X 45° CED-STD	355	496	34	112					
11	S22312	1	CODO 3 X 45° CED-STD	356	491	38	114					

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	S24066	24066	0.300	0.170	0.710	0.010	0.001	0.280	0.030	0.028	0.010	0.015	0.001	0.000
HF	S22663	22663	0.320	0.180	0.760	0.010	0.001	0.270	0.020	0.020	0.010	0.016	0.001	0.000
HF	S28276	28276	0.330	0.190	0.720	0.008	0.001	0.270	0.040	0.029	0.020	0.029	0.001	0.001
HF	S25835	25835	0.320	0.180	0.750	0.009	0.001	0.290	0.030	0.035	0.010	0.025	0.001	0.001
HF	S21572	21572	0.320	0.190	0.700	0.009	0.002	0.280	0.030	0.029	0.010	0.020	0.001	0.002
HF	S32858	32858	0.310	0.170	0.730	0.012	0.001	0.280	0.040	0.060	0.010	0.028	0.001	0.000
HF	T17196	17196	0.310	0.170	0.680	0.016	0.003	0.280	0.050	0.079	0.041	0.030	0.000	0.000
HF	S29078	29078	0.320	0.190	0.710	0.010	0.002	0.260	0.040	0.035	0.010	0.017	0.001	0.000
HF	23229	23229	0.310	0.180	0.710	0.012	0.001	0.270	0.040	0.046	0.010	0.024	0.001	0.001
HF	S21986	21986	0.320	0.180	0.770	0.008	0.002	0.300	0.040	0.031	0.010	0.033	0.001	0.001
HF	S22312	22312	0.320	0.190	0.740	0.010	0.001	0.290	0.030	0.019	0.010	0.010	0.001	0.001

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 (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°: 400531 400531 433163 412333 373324 472674 4017560 440948 392950 379360 379360

"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:
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

Waldo Gallegos
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.