



Tubbs de Acero de México, S.A.,
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CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474 3.1.B)		Numero: Number:	Pagina/Page:				
		25696	1				
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, Grade 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	S48021	456	CODO 4 X 90° R.L. CED-STD	325	478	30	104					
2	S48017	528	CODO 3 X 90° R.L. CED-STD	334	508	30	104					
3	T57980	10	CODO 8 X 45° CED-XS	285	474	44	123					
4	T59006	100	CODO 6 X 90° R.L. CED-STD	334	487	34	104					
5	T58293	5	RED. CONC. 10 X 8 CED-STD	317	490	41	100					
6	S48017	100	CODO 3 X 45° CED-STD	334	508	30	104					
7	T58477	40	CODO 6 X 90° R.L. CED-XS	305	486	33	153					
8	T56767	10	TEE RED. 8 X 4 CED-STD	315	492	45	101					
9	S45279	1	CODO 3 X 45° CED-XS	264	462	36	105					
10	S45280	1	CODO 3 X 45° CED-XS	304	484	34	121					
11	S20337	1	CODO 3 X 45° CED-XS	305	480	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	T57980	57980	0.300	0.170	0.670	0.012	0.001	0.270	0.040	0.059	0.015	0.040	0.000	0.000
HF	T59006	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	T58293	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	T58477	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	T56767	56767	0.330	0.190	0.700	0.015	0.003	0.270	0.050	0.068	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	0.048	0.001	0.002
HF	S45280	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	0.001	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°: 11058467 11061939 11057971 12016119 12002317 11061939 12011929 11048477 347507 347507 370507

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°: 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:
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.