



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)	Número: Number:	Página/Page:
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Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 7314 - 7299 -	Lista de Empaque: Packing List: 11724	Fecha/Date: 20 de Noviembre 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
12	S69900	1	CODO 3 X 45° CED-XS	328	488	35	98					
13	S31050	1	CODO 3 X 45° CED-XS	306	481	33	130					
14	S32706	6	CODO 3 X 45° CED-XS	336	480	35	109					
15	NF3	10	CODO 1 X 45° CED-XS	273	444	50	138					
16	S31052	20	CODO 2 X 90° R.C. CED-XS	326	495	31	120					
17	S29808	12	CODO 2 1/2 X 45° CED-XS	292	451	35	124					

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	S69900	69900	0.329	0.180	0.770	0.014	0.002	0.290	0.050	0.062	0.020	0.029	0.001	0.001
HF	S31050	31050	0.340	0.200	0.780	0.001	0.001	0.280	0.030	0.027	0.010	0.013	0.001	0.000
HF	S32706	32706	0.320	0.180	0.770	0.010	0.001	0.300	0.040	0.045	0.010	0.026	0.001	0.000
HF	NF3	57298	0.298	0.165	0.610	0.006	0.001	0.200	0.050	0.125	0.040	0.070	0.000	0.000
HF	S31052	31052	0.330	0.190	0.740	0.010	0.001	0.260	0.040	0.056	0.010	0.020	0.001	0.001
HF	S29808	29808	0.332	0.190	0.720	0.008	0.001	0.290	0.050	0.060	0.020	0.060	0.001	0.001

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°: 257125 457078 470998 99010669 458096 3500001324

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°: 257125 457078 470998 99010669 458096 3500001324

"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.
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