



Tubos 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: 25633	Pagina/Page: 1
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Vendido a: Sold to: PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 12427 -	Lista de Empaque: Packing List: 13242	Fecha/Date: 30 de Marzo 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	20	CODO 4 X 45° CED-STD	325	478	30	104					
2	T57653	15	CODO 10 X 90° R.L. CED-STD	283	470	35	93					
3	T58642	6	CODO 10 X 90° R.L. CED-STD	250	453	38	104					
4	T58243	19	CODO 10 X 90° R.L. CED-STD	328	486	34	94					
5	T57980	60	CODO 8 X 90° R.L. CED-STD	311	468	38	141					
6	T51542	5	TEE RED. 8 X 4 CED-XS	311	489	42	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	T57653	57653	0.310	0.180	0.670	0.008	0.001	0.290	0.040	0.060	0.017	0.030	0.000	0.000
HF	T58642	58642	0.300	0.170	0.670	0.014	0.001	0.310	0.050	0.054	0.013	0.030	0.000	0.000
HF	T58243	58243	0.330	0.180	0.740	0.014	0.001	0.280	0.080	0.054	0.015	0.030	0.000	0.000
HF	T57980	57980	0.310	0.180	0.680	0.011	0.001	0.280	0.040	0.060	0.015	0.040	0.000	0.000
HF	T51542	51542	0.320	0.180	0.710	0.011	0.003	0.280	0.040	0.061	0.018	0.030	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 11053706 12004239 11058103 12009059 11020787

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 11053706 12004239 11058103 12009059 11020787

"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".

<p>Notas:</p> <p>Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frío normalizado a 940°C max. Tiempo de permanencia 10'.</p> <p>Inspección Dimensional: Satisfactoria.</p> <p>HF: FORMADO EN CALIENTE/HOT FORMED</p>	<p>Notes:</p> <p>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'.</p> <p>Visual dimensional check: Satisfactory</p> <p>CF: FORMADO EN FRIO/COLD FORMED</p>	<p><i>Waldo Gallegos</i></p> <p>Quality Manager / Jefe de Calidad: ING. WALDO GALLEGOS GALVAN</p>	<p>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.</p> <p>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.</p>
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