



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)		Número: Number: 22609	Página/Page: 1 DE 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: 6636 - 6635 -	Lista de Empaque: Packing List: 11518	Fecha/Date: 9 de Julio 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	S32624	1	CODO 4 X 90° R.L. CED-XS	301	488	31	140					
13	S31762	1	CODO 4 X 90° R.L. CED-XS	254	452	33	111					
14	S31050	120	CODO 1 1/2 X 90° R.L. CED-STD.	367	534	32	130					
15	S31050	40	CODO 1 1/4 X 90° R.L. CED-STD	367	534	32	130					
16	S38130	50	CODO 1 1/2 X 90° R.L. CED-XS	358	524	34	130					
17	S31051	10	CODO 2 X 90° R.C. CED-STD	333	501	30	114					
18	S33571	15	CODO 2 1/2 X 45° CED-XS	313	487	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	S32624	32624	0.340	0.200	0.740	0.012	0.003	0.290	0.040	0.036	0.010	0.031	0.001	0.000
HF	S31762	31762	0.320	0.180	0.740	0.012	0.001	0.290	0.050	0.023	0.010	0.021	0.001	0.000
HF	S31050	31050	0.330	0.190	0.760	0.007	0.002	0.270	0.030	0.023	0.010	0.013	0.001	0.000
HF	S31050	31050	0.330	0.190	0.760	0.007	0.002	0.270	0.030	0.023	0.010	0.013	0.001	0.000
HF	S38130	38130	0.313	0.180	0.710	0.009	0.001	0.280	0.030	0.043	0.020	0.022	0.001	0.001
HF	S31051	31051	0.320	0.190	0.730	0.009	0.001	0.260	0.030	0.025	0.010	0.012	0.001	0.001
HF	S33571	33571	0.340	0.200	0.750	0.010	0.003	0.270	0.030	0.024	0.010	0.016	0.003	0.002

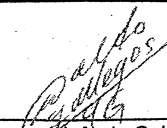
Certificamos que los resultados de los Análisis Químicos y Pruebas Mecánicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con N°: 470425 470425 457348 457348 258860 458124 9002244

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°: 470425 470425 457348 457348 258860 458124 9002244

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, enriado 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.