

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

Número:
Number:
22644

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Tubos de Acero de México, S.A.
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Vendido a: Sold to:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	6752 - 6636 - 6751	Lista de Empaque: Packing List:	11538	Fecha/Date:	21 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
1	S28891	264	CODO 3 X 90° R.L. CED-STD	293	455	31	110					
2	S33368	40	CODO 2 X 90° R.L. CED-XS	330	499	32	126					
3	T43329	50	CODO 10 X 90° R.L. CED-STD	3108	4745	41	118					
4	T42773	60	CODO 8 X 90° R.L. CED-STD	365	494	34	106					
5	S41656	23	CODO 4 X 90° R.C. CED-STD	311	467	39	123					
6	S21041	7	CODO 4 X 90° R.C. CED-STD	282	477	34	119					
7	T42633	4	CODO 10 X 45° CED-XS	316	476	42	118					
8	T42161	1	CODO 10 X 45° CED-XS	314	489	41	124					
9	T40571	1	CODO 10 X 45° CED-XS	314	491	34	110					
10	T41223	8	CODO 8 X 90° R.C. CED-STD	338	506	41	120					
11	S43766	25	RED. CONC. 4 X 3 CED-STD	341	501	40	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	S28891	28891	0.340	0.200	0.750	0.010	0.002	0.280	0.030	0.029	0.010	0.033	0.001	0.000
HF	S33368	33368	0.340	0.190	0.800	0.013	0.002	0.270	0.030	0.044	0.010	0.023	0.001	0.000
HF	T43329	43329	0.310	0.180	0.670	0.012	0.001	0.290	0.040	0.043	0.017	0.020	0.000	0.000
HF	T42773	42773	0.310	0.180	0.670	0.016	0.001	0.260	0.040	0.071	0.023	0.030	0.000	0.000
HF	S41656	41656	0.300	0.170	0.720	0.008	0.001	0.270	0.020	0.064	0.010	0.026	0.001	0.001
HF	S21041	21041	0.330	0.190	0.740	0.013	0.001	0.300	0.040	0.032	0.010	0.033	0.001	0.002
HF	T42633	42633	0.300	0.170	0.690	0.012	0.003	0.270	0.050	0.053	0.018	0.030	0.000	0.000
HF	T42161	42161	0.310	0.180	0.690	0.016	0.001	0.280	0.050	0.054	0.009	0.020	0.000	0.000
HF	T40571	40571	0.300	0.170	0.680	0.008	0.003	0.280	0.040	0.055	0.011	0.030	0.000	0.000
HF	T41223	41223	0.300	0.170	0.660	0.011	0.002	0.270	0.050	0.068	0.010	0.030	0.000	0.000
CF	S43766	43766	0.350	0.200	0.820	0.011	0.001	0.296	0.030	0.062	0.020	0.023	0.002	0.001

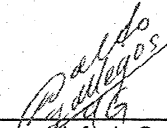
Certificamos que los resultados de los Análisis Químicos y Pruebas Mecánicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con N°: 440948 479661 9036486 9002651 291765 370444 9008315 8063663 8044041 8059874 311696

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°: 440948 479661 9036486 9002651 291765 370444 9008315 8063663 8044041 8059874 311696

"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 frio 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.

CC-008