



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:	Pagina/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:	13506 -	Lista de Empaque: Packing List:	13721	Fecha/Date:	25 de Octubre 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	Dimensiones y tolerancias / Dimension and tolerances	ASME B 16.9 - 2007	Factura/Invoice:	Bocas / Ends	Biselado / Bevelled ends	
Conform to ASME II Ed. 2001 ASME SA-234, Grade WPB, NACE MR0103-2003							

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	T61395	10	TEE 8 CED-XS	295	467	41	146					
2	T61177	20	TEE 6 CED-XS	301	478	43	148					
3	T59567	5	RED. CONC. 16 X 14 CED-STD	331	481	37	154					
4	T52341	2	TEE 16 CED-STD	314	458	37	138					
5	T52018	4	TEE 16 CED-STD	240	490	38	99					

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	T61395	61395	0.310	0.180	0.660	0.014	0.001	0.300	0.050	0.074	0.026	0.040	0.000	0.000
HF	T61177	61177	0.300	0.170	0.670	0.011	0.001	0.280	0.030	0.059	0.030	0.030	0.000	0.000
CF	T59567	59567	0.310	0.180	0.660	0.013	0.003	0.260	0.040	0.070	0.015	0.040	0.000	0.000
HF	T52341	52341	0.310	0.180	0.670	0.013	0.002	0.280	0.050	0.069	0.022	0.030	0.000	0.000
HF	T52018	52018	0.300	0.170	0.670	0.016	0.001	0.270	0.040	0.080	0.030	0.040	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°:

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°:

12048501 12042255 12027539 11050146 10053693

"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:	Notes:
Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frío normalizado a 940°C max.	Hot formed fittings in a range from 620°C to 980°C, cooled in still air, Cold formed normalized at 940°C max.
Tiempo de permanencia 10'.	Holding time 10'.
Inspección Dimensional: Satisfactoria.	Visual dimensional check: Satisfactory
HF: FORMADO EN CALIENTE/HOT FORMED	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.