



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: 27924	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: 15147 - 15965 - 15868 - 16254 -	Lista de Empaque: Packing List: 14506	Fecha/Date: 2 de Septiembre de 2013
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-10, 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	T66113	20	TEE 6 CED-XS	290	466	37	150					
2	T65886	30	RED. CONC. 10 X 8 CED-STD	290	479	44	148					
3	T65039	20	TEE RED. 6 X 4 CED-XS	288	472	45	161					
4	S25806	36	CODO 1 1/2 X 45° CED-STD	397	537	44	133					
5	T65886	10	TEE RED. 8 X 4 CED-STD	290	479	44	148					
6	T62067	5	TEE 10 CED-80	305	473	40	146					
7	T65719	4	RED. CONC. 12 X 10 CED-40	328	492	42	75					
8	T59630	10	TEE RED. 10 X 4 CED-80	377	473	34	140					
9	T5968	5	CODO 5 X 90° R.C. CED-XS	322	493	41	75					

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	T66113	66113	0.310	0.180	0.660	0.009	0.003	0.270	0.060	0.069	0.022	0.040	0.000	0.000
CF	T65886	65886	0.310	0.180	0.670	0.006	0.001	0.280	0.040	0.064	0.014	0.040	0.000	0.000
HF	T65039	65039	0.300	0.170	0.660	0.012	0.002	0.250	0.050	0.048	0.027	0.030	0.000	0.000
HF	S25806	25806	0.340	0.190	0.730	0.014	0.001	0.300	0.050	0.070	0.040	0.033	0.003	0.002
HF	T65886	65886	0.310	0.180	0.670	0.006	0.001	0.280	0.040	0.064	0.014	0.040	0.000	0.000
HF	T62067	62067	0.330	0.190	0.670	0.008	0.001	0.300	0.060	0.066	0.032	0.040	0.000	0.000
CF	T65719	65719	0.310	0.180	0.660	0.005	0.002	0.270	0.040	0.062	0.014	0.040	0.000	0.000
HF	T59630	59630	0.320	0.190	0.660	0.009	0.001	0.280	0.040	0.059	0.024	0.040	0.000	0.000
HF	T5968	5968	0.310	0.180	0.760	0.006	0.001	0.310	0.010	0.023	0.005	0.010	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) certis conform to ASTM A106 Grade B N°:
 13049600 13046801 13034073 13008551 13046801 12073168
 13047572 12017284 13036913
 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: Forjado en caliente a 820°C-980°C, enfriado al Hot formed fittings in a range from 820°C to 980°C, cooled in still air. Forjado en frío normalizado a 840°C max. Cold formed normalized at 840°C max. Tiempo de permanencia 10'. Holding time 10'. Inspección Dimensional Satisfactoria. Visual dimensional check: Satisfactory	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.
HF: FORMADO EN CALIENTE/HOT FORMED CF: FORMADO EN FRIJO/COLD FORMED	Quality Manager/Jefe de Calidad: ING. WALDO GALLEGOS GALVAN