



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:
	25504	1

Vendido a: Sold to:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	11109 - 12170 - 11723 -	Lista de Empaque: Packing List:	13166	Fecha/Date:	29 de Febrero 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	T51306	12	CODO 14 X 90° R.L. CED-STD	320	484	37	105					
2	T49869	20	RED. CONC. 8 X 4 CED-STD	301	481	41	116					
3	T58293	18	CODO 12 X 90° R.L. CED-STD	279	460	36	95					
4	S47300	41	CODO 4 X 90° R.L. CED-XS	287	486	33	135					
5	T55633	3	CODO 16 X 45° CED-XS	316	478	36	103					
6	T57980	20	CODO 5 X 90° R.C. CED-STD	316	464	32	121					
7	S47300	80	CODO 4 X 45° CED-XS	287	486	33	135					
8	S47300	10	CODO 5 X 45° CED-XS	269	477	34	116					
9	NF3	50	CODO 1 X 45° CED-XS	273	444	50	138					

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	T51306	51306	0.310	0.180	0.660	0.011	0.001	0.260	0.040	0.050	0.022	0.030	0.000	0.000
CF	T49869	49869	0.300	0.180	0.660	0.014	0.002	0.270	0.020	0.065	0.020	0.030	0.000	0.000
HF	T58293	58293	0.310	0.180	0.670	0.006	0.002	0.290	0.060	0.054	0.016	0.030	0.000	0.000
HF	S47300	47300	0.330	0.200	0.740	0.010	0.000	0.300	0.020	0.032	0.010	0.018	0.001	0.002
HF	T55633	55633	0.310	0.180	0.680	0.009	0.002	0.270	0.050	0.064	0.024	0.030	0.000	0.000
HF	T57980	57980	0.310	0.180	0.660	0.011	0.000	0.280	0.040	0.060	0.015	0.040	0.000	0.000
HF	S47300	47300	0.330	0.200	0.740	0.010	0.000	0.300	0.020	0.032	0.010	0.018	0.001	0.002
HF	S47300	47300	0.330	0.200	0.750	0.012	0.001	0.290	0.020	0.034	0.010	0.015	0.001	0.002
HF	NF3	57298	0.298	0.165	0.610	0.006	0.001	0.200	0.050	0.125	0.040	0.070	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°:

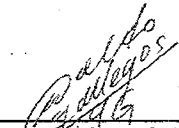
We certify that result of chemical analysis and mechanical test are true and correct copy of the test certificate issued by the manufacturer and/or supplier Raw material (Seamless Pipe) certs conform to ASTM A106 Grade B N°:

10041124 10048763 12012045 11045460 11032897 12002299
11045460 11046243 99010669

"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 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.