



Tubos de Acero de Mexico, S.A.
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L. Méx.
(52) 81 8305 9600 tel.
(52) 81 8305 9630 fax.

**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:	11177 - 11409	Lista de Empaque: Packing List:	12933	Fecha/Date:	28 de Octubre de 2011
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 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	T56000	8	TEE RED. 10 X 8 CED-STD	314	483	46	126					
2	T55440	12	CODO 6 X 45° CED-STD	311	474	40	122					
3	T55201	17	CODO 6 X 45° CED-STD	310	489	40	124					
4	T52744	1	CODO 6 X 45° CED-STD	347	504	39	126					
5	S46665	40	CODO 4 X 45° CED-STD	305	481	30	140					
6	S46244	50	CODO 2 X 45° CED-STD	281	475	30	107					
7	T51308	6	CODO 14 X 45° CED-STD	278	477	34	103					
8	S26168	9	CODO 2 1/2 X 90° R.L. CED-STD	312	465	51	164					
9	S29808	61	CODO 2 1/2 X 90° R.L. CED-STD	331	481	41	124					
10	T57238	18	CODO 12 X 90° R.L. CED-STD	319	496	39	124					
11	S45796	90	CODO 4 X 90° R.L. CED-XS	310	488	33	145					

ANALISIS QUIMICO / CHEMICAL ANALYSIS															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
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	T56000	56000	0.310	0.170	0.710	0.011	0.001	0.290	0.040	0.070	0.020	0.030	0.000	0.000	
HF	T55440	55440	0.300	0.170	0.690	0.008	0.001	0.290	0.040	0.060	0.013	0.030	0.000	0.000	
HF	T55201	55201	0.310	0.180	0.660	0.008	0.002	0.280	0.050	0.065	0.015	0.030	0.000	0.000	
HF	T52744	52744	0.330	0.180	0.770	0.010	0.001	0.310	0.040	0.070	0.035	0.040	0.000	0.000	
HF	S46665	46665	0.340	0.200	0.740	0.009	0.001	0.290	0.050	0.053	0.010	0.025	0.001	0.002	
HF	S46244	46244	0.330	0.190	0.740	0.012	0.000	0.290	0.050	0.035	0.020	0.020	0.002	0.002	
HF	T51308	51308	0.310	0.180	0.660	0.014	0.001	0.280	0.040	0.054	0.023	0.030	0.000	0.000	
HF	S26168	26168	0.325	0.180	0.810	0.008	0.001	0.290	0.020	0.038	0.010	0.019	0.001	0.001	
HF	S29808	29808	0.332	0.190	0.720	0.008	0.001	0.290	0.050	0.060	0.020	0.060	0.001	0.001	
HF	T57238	57238	0.320	0.180	0.680	0.013	0.001	0.310	0.050	0.078	0.020	0.040	0.000	0.000	
HF	S45796	45796	0.350	0.200	0.770	0.013	0.000	0.290	0.050	0.032	0.020	0.015	0.001	0.002	

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°:
11044511 11030361 11029713 11038749 11039685 598998
10041849 165677 3500001324 11045307 11030471
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

Notas:
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.