



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

Número:
Number:

22302

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Tubos de Acero de México, S
Carr. Mty-Laredo Km 24.2
Apartado Postal 43
(65550) C. de Flores, N.L. Méx
(52) 81 8305 9600 tel
(52) 81 8305 9620 fax

Vendido a: Sold to:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	5949 - 5942 - 6032 - 5950 - 5931	Lista de Empaque: Packing List:	11336	Fecha/Date:	18 de Marzo 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	S31761	130	CODO 4 X 90° R.L. CED-STD	305	479	32	111					
2	S31760	98	CODO 4 X 90° R.L. CED-STD	262	445	30	112					
3	T43329	43	TEE 6 CED-XS	300	475	44	118					
4	S29506	100	CODO 2 X 90° R.L. CED-STD	293	467	30	122					
5	T42161	24	CODO 10 X 45° CED-STD	369	512	32	102					
6	S45280	29	CODO 1 1/2 X 90° R.L. CED-STD.	357	511	28	122					
7	S22135	24	CODO 1 1/2 X 90° R.L. CED-STD.	365	529	48	137					
8	S22620	7	CODO 1 1/2 X 90° R.L. CED-STD.	325	530	45	137					
9	T40745	50	RED. CONC. 6 X 4 CED-STD	310	477	40	119					
10	T40546	5	RED. CONC. 14 X 12 CED-STD	256	472	30	108					
11	S45280	36	CODO 1 1/2 X 45° CED-STD	357	511	28	122					

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 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°: 462049 462049 9010355 458002 9002778 329135 7046079 412239 8045547 8050710 329135
PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	
HF	S31761	31761	0.320	0.180	0.740	0.008	0.001	0.250	0.040	0.042	0.010	0.023	0.001	0.000
HF	S31760	31760	0.340	0.200	0.740	0.009	0.002	0.260	0.040	0.041	0.000	0.017	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	S29506	29506	0.320	0.180	0.730	0.008	0.002	0.300	0.040	0.051	0.030	0.030	0.003	0.001
HF	T42161	42161	0.310	0.180	0.670	0.016	0.001	0.280	0.040	0.050	0.009	0.020	0.000	0.000
HF	S45280	45280	0.323	0.180	0.730	0.010	0.001	0.300	0.050	0.055	0.020	0.048	0.001	0.000
HF	S22135	22135	0.320	0.170	0.800	0.011	0.001	0.300	0.040	0.024	0.010	0.017	0.001	0.002
HF	S22620	22620	0.330	0.180	0.780	0.013	0.001	0.250	0.050	0.024	0.010	0.022	0.001	0.000
CF	T40745	40745	0.290	0.170	0.670	0.009	0.001	0.280	0.030	0.043	0.005	0.020	0.000	0.000
CF	T40546	40546	0.310	0.180	0.670	0.009	0.001	0.290	0.050	0.058	0.009	0.030	0.000	0.000
HF	S45280	45280	0.323	0.180	0.730	0.010	0.001	0.300	0.050	0.055	0.020	0.048	0.001	0.000

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.
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