



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

Número:
Number:
23579

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Tubos de Acero de México, 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 9620 fax

Vendido a: Sold to:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	8299 - 8417 -	Lista de Empaque: Packing List:	12060	Fecha/Date:	5 de Julio de 2010
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
12	T42416	1	CODO 6 X 90° R.L. CED-XS	306	470	38	116					
13	T48724	37	CODO 6 X 90° R.L. CED-XS	299	489	42	122					
14	T49521	20	CODO 8 X 45° CED-STD	343	511	39	120					
15	T49654	40	CODO 10 X 90° R.L. CED-STD	306	480	41	120					
16	S30232	140	CODO 4 X 90° R.L. CED-XS	295	483	30	135					
17	T41140	8	CODO 16 X 45° CED-XS	245	481	37	115					
18	T49220	8	CODO 10 X 45° CED-XS	324	493	42	116					
19	T49220	25	TEE 6 CED-STD	311	475	46	120					
20	T33854	10	RED. CONC. 12 X 6 CED-STD	341	476	34	90					
21	S38031	12	CODO 5 X 45° CED-XS	334	492	35	112					

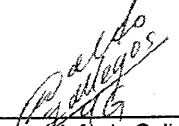
ANALISIS QUIMICO / CHEMICAL ANALYSIS														
PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T42416	42416	0.310	0.170	0.700	0.012	0.001	0.280	0.040	0.060	0.023	0.040	0.000	0.000
HF	T48724	48724	0.320	0.180	0.700	0.014	0.002	0.280	0.050	0.074	0.018	0.030	0.000	0.000
HF	T49521	49521	0.290	0.170	0.670	0.015	0.003	0.270	0.010	0.049	0.019	0.020	0.000	0.000
HF	T49654	49654	0.320	0.190	0.660	0.013	0.001	0.280	0.030	0.062	0.025	0.030	0.000	0.000
HF	S30232	30232	0.330	0.190	0.770	0.015	0.001	0.250	0.050	0.003	0.010	0.010	0.001	0.001
HF	T41140	41140	0.320	0.180	0.790	0.010	0.002	0.290	0.030	0.044	0.005	0.020	0.000	0.000
HF	T49220	49220	0.310	0.170	0.700	0.011	0.003	0.270	0.040	0.067	0.020	0.030	0.000	0.000
HF	T49220	49220	0.300	0.170	0.670	0.011	0.003	0.280	0.030	0.066	0.020	0.030	0.000	0.000
CF	T33854	33854	0.310	0.180	0.680	0.008	0.001	0.300	0.040	0.053	0.030	0.030	0.000	0.000
HF	S38031	38031	0.322	0.190	0.730	0.011	0.001	0.280	0.020	0.037	0.010	0.018	0.001	0.001

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°: 8068557 10025889 10024976 10026152 451016 8054924 10022274 10024416 7020187 257247

"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.