



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

Número: 23312
Página/Page: 1 DE 1
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: PROVEEDORA DE MATERIALES ANCER, S.A.
DE C.V.
Pedido del Cliente No: 5617 -
Customers Order No:
Lista de Empaque: 11906
Packing List:
Fecha/Date: 5 de Abril 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
1	S33021	528	CODO 3 X 90° R.L. CED-STD	317	483	31	135					
2	T46926	3	CODO 6 X 90° R.L. CED-XS	317	480	41	120					
3	S33737	212	CODO 6 X 90° R.L. CED-XS	287	476	36	137					
4	T40367	16	TEE 14 CED-STD	322	476	37	99					
5	T41950	4	TEE 14 CED-STD	359	484	47	118					

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	S33021	33021	0.310	0.180	0.720	0.014	0.001	0.290	0.030	0.044	0.010	0.024	0.001	0.000
HF	T46926	46926	0.320	0.180	0.690	0.010	0.003	0.270	0.040	0.063	0.038	0.030	0.000	0.000
HF	S33737	33737	0.340	0.200	0.750	0.009	0.001	0.270	0.040	0.034	0.010	0.017	0.001	0.002
HF	T40367	40367	0.320	0.180	0.690	0.012	0.003	0.270	0.060	0.080	0.024	0.040	0.000	0.000
HF	T41950	41950	0.300	0.170	0.660	0.007	0.002	0.260	0.050	0.040	0.020	0.030	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°: 473305 9066437 479807 8044215 9043706

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.

Notes: Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frío normalizado a 940°C max. Hot formed fittings in a range from 620°C to 960°C, cooled in still air, Cold formed normalized at 940°C max. Tiempo de permanencia 10'. Holding time 10'. Inspección Dimensional: Satisfactoria. Visual dimensional check: Satisfactory

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.