

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

Tubos de Acero de México, S.A.
Carr. Mty.-Laredo Km. 24.2
Apartado Postal 43
(55550) C. de Flores, N.L. Méx.
(52) 81 8305 9600 tel
(52) 81 8305 9620 fax

Vendido a:	PROVEEDORA DE MATERIALES ANGER, S.A.	Pedido del Cliente No:	5274	Lista de Empaque:	1 0 9 1 9	Fecha/Date:	14 de Octubre de 2008
Sold to:	DE C. V.	Customers Order No:		Packing List:			
Especificaciones y Grados / Standard or Specification and Steel Grade				Dimensiones y tolerancias / Dimension and tolerances			
Seamless Fittings according to ASTM A 234 "W" WPB-97, A234 "W" WPB-054, NACE MR 0175-2003				ASME B 16.9 - 2003 and ASME B 16.28 - 1994			
Conform to ASME II Ed. 2001 ASME SA-234 "W" Grade WPB, NACE MR0103-2003				Biselado / Bevelled ends			

ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	PRUEBAS MECANICAS / MECHANICAL TEST			PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C					
				ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	T41466	120	CODO 8 X 90° R. I. CED-STD	276	471	39	109					
2	T41032	100	TEE 6 CED-STD	281	472	40	105					

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	ANALISIS QUIMICO / CHEMICAL ANALYSIS											
			%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T41466	41466	0.310	0.180	0.670	0.010	0.002	0.280	0.040	0.061	0.006	0.030	0.000	0.000
HF	T41032	41032	0.310	0.180	0.670	0.007	0.001	0.270	0.040	0.064	0.007	0.030	0.000	0.000

Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecanicas 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°. 8052359 8050797

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 980°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
HF: FORMADO EN CALIENTE/HOT FORMED 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.