



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

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

Numero:
Number:

26344

Pagina/Page:

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Vendido a: Sold to:	MIMSA	Pedido del Cliente No: Customers Order No:	129711 -	Lista de Empaque: Packing List:	13673	Fecha/Date:	30 de Septiembre de 2012
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			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	T61225	500	CODO 3 X 90° R.I. CED-STD	346	501	37	152					
2	S46803	500	CODO 2 1/2 X 90° R.I. CED-STD	328	498	30	131					
3	S49296	1000	CODO 1 1/2 X 90° R.I. CED-STD.	357	511	51	130					

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	T61225	61225	0.320	0.180	0.680	0.012	0.002	0.320	0.050	0.070	0.044	0.040	0.000	0.000
HF	S46803	46803	0.340	0.190	0.760	0.010	0.001	0.300	0.040	0.047	0.020	0.060	0.002	0.001
HF	S49296	49296	0.320	0.180	0.750	0.009	0.002	0.280	0.040	0.029	0.020	0.054	0.001	0.002

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°:
12054172 11042716 11061966

"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.
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