



Tubos de Acero de Mexico, S.A.
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**CERTIFICADO DE CALIDAD
 INSPECTION CERTIFICATE**
 (DIN EN 10204:2004E - ISO 10474 3.1.B)

Numero:
 Number:
 25935

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Vendido a: Sold to:	TUVANSA MONTERREY	Pedido del Cliente No: Customers Order No:	11826 -	Lista de Empaque: Packing List:	13452	Fecha/Date:	21 de Junio 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	T60764	1000	CODO 6 X 90° R L CED-STD.	321	468	39	142					
2	T60765	200	CODO 6 X 90° R L CED-STD.	290	455	32	151					

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	T60764	60764	0.000	0.170	0.680	0.019	0.001	0.280	0.050	0.052	0.022	0.030	0.000	0.000
HF	T60765	60765	0.010	0.170	0.590	0.010	0.001	0.280	0.060	0.053	0.029	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 (Tuberia 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) carts conform to ASTM A106 Grade B N°
 12038071 12016310

"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 920°C-940°C, enfriado al aire.
 Formado en frio no normalizado a 940°C max.
 Tiempo de permanencia 10".
 Inspección Dimensional Satisfactoria.
 HF FORMADO EN CALIENTE/HOT FORMED
 CF FORMADO EN FRIO/COLD FORMED

Hot formed fittings in a range from 920°C to 960°C, cooled in still air.
 Cold formed non-normalized at 940°C max.
 Holding time 10".
 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.

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