



Tubos de Acero de México, S.A.
 Carr. Atlix-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: 27728	Pagina/Page: 1
Vendido a: Sold to: PROVEEDORA DE MATERIALES ANCOR, S. A. DE C. V.	Pedido del Cliente No: Customers Order No: 6492-	Lista de Empaque: Packing List: 14394	Fecha/Date: 28 de Junio de 2013
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-10, 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 Biseado / 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	S21359	300	CODO 2 X 45° CED-STD	348	496	30	130					
2	T6080	180	CODO 8 X 90° R.L. CED-STD	302	404	42	114					
3	T5967	20	CODO 8 X 90° R.L. CED-STD	301	404	32	146					
4	T23030	359	CODO 1 X 90° R.L. CED-STD	310	449	49	151					
5	T5968	6	CODO 10 X 90° R.C. CED-STD	298	485	42	145					
6	T5465	4	CODO 10 X 90° R.C. CED-STD	322	483	38	145					
7	T23030	195	CODO 1 X 45° CED-STD	310	449	49	151					
8	T46413	5	CODO 1 X 45° CED-STD	300	447	52	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	S21359	21359	0.300	0.170	0.710	0.007	0.001	0.270	0.030	0.080	0.010	0.027	0.001	0.002
HF	T6080	6080	0.300	0.170	0.720	0.006	0.001	0.270	0.020	0.017	0.006	0.020	0.000	0.000
HF	T5967	5967	0.320	0.180	0.760	0.005	0.001	0.310	0.020	0.047	0.006	0.020	0.000	0.000
HF	T23030	23030	0.310	0.150	0.550	0.009	0.000	0.180	0.080	0.080	0.043	0.040	0.000	0.000
HF	T5968	5968	0.300	0.170	0.760	0.005	0.001	0.300	0.010	0.021	0.004	0.010	0.000	0.000
HF	T5465	5465	0.300	0.160	0.800	0.006	0.001	0.230	0.020	0.042	0.009	0.020	0.000	0.000
HF	T23030	23030	0.310	0.150	0.550	0.009	0.000	0.180	0.080	0.080	0.043	0.040	0.000	0.000
HF	T46413	46413	0.310	0.160	0.570	0.012	0.000	0.190	0.040	0.049	0.013	0.020	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 Ray.

material (Seamless Pipe) certs conform to ASTM A106 Grade B N°.

12048849 13025954 13025208 12792 13028935 13002051 12792 11697

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 en aire.
 He: Formado en frío normalizado a 940°C max.
 Tiempo de permanencia 10'.
 Inspección Dimensional: Satisfactoria.
 HF: FORMADO EN CALIENTE/HOT FORMED

Notas:
 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.

FOR03161