



Tubos de Acero de México, S.A.
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CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474 3.1.B)		Número: Number: 24245	Página/Page: 1 DE 1
Vendido a: Sold to: PROVEEDORA DE MATERIALES AN CER. S.A. DE C.V.	Pedido del Cliente No: Customers Order No: 5855-	Lista de Empaque: Packing List: 12452	Fecha/Date: 7 de Enero de 2011
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 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	S42774	476	CQDO 4 X 90° R.I. CED-STD	325	505	33	140					
2	S42236	335	CODO 4 X 90° R.I. CED-STD	323	489	32	108					
3	S32307	110	CODO 2 1/2 X 45° CED-STD	314	485	31	122					
4	S42357	147	RED. CONC. 4 X 2 CED-YS	284	473	37	130					
5	S42183	100	CODO 3 X 45° CED-YS	312	477	35	135					

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	S42774	42774	0.320	0.180	0.750	0.012	0.002	0.300	0.040	0.024	0.010	0.015	0.002	0.002
HF	S42236	42236	0.330	0.190	0.760	0.011	0.001	0.290	0.040	0.031	0.020	0.035	0.002	0.002
HF	S32307	32307	0.330	0.190	0.710	0.012	0.002	0.260	0.050	0.035	0.010	0.028	0.001	0.001
CF	S42357	42357	0.330	0.190	0.750	0.012	0.001	0.310	0.030	0.040	0.010	0.019	0.002	0.002
HF	S42183	42183	0.330	0.190	0.760	0.010	0.001	0.280	0.030	0.022	0.010	0.014	0.003	0.002

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°: 10058145 10053798 468319 10053977 10058191

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°: 10058145 10053798 468319 10053977 10058191

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.

<p>Notes:</p> <p>Formado en caliente a 620°C-950°C, enfriado al aire; Formado en frío normalizado a 940°C max.</p> <p>Timepo de permanencia 10'.</p> <p>Inspeccion Dimensional: Satisfactoria.</p> <p>HF: FORMADO EN CALIENTE/HOT FORMED</p>	<p>Notes:</p> <p>Hot formed fittings in a range from 620°C to 950°C, cooled in still air.</p> <p>Cold formed normalized at 940°C max.</p> <p>Holding time 10'.</p> <p>Visual dimensional check: Satisfactory</p> <p>CF: FORMADO EN FRIO/COLD FORMED</p>	<p>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.</p> <p>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.</p>
<p>Quality Manager / Jefe de Calidad: ING. WALDO GALLEGOS GALVAN</p>		<p>CC-008</p>