



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)		Numero: Number: 25345	Pagina/Page: 3
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Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANKER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	6117 - 6153 - 6000	Lista de Empaque: Packing List:	13088	Fecha/Date:	26 de Enero 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
23	T56000	44	RED. CONC. 12 X 10 CED-STD	333	501	40	93					
24	T56076	146	RED. CONC. 6 X 4 CED-STD	327	491	39	107					
25	T56641	50	RED. CONC. 6 X 4 CED-STD	362	481	47	107					
26	T56718	64	TEE 6 CED-STD	280	482	36	107					
27	T56059	4	RED. CONC. 16 X 8 CED-STD	267	467	34	106					
28	T56059	9	RED. CONC. 16 X 12 CED-STD	267	467	34	106					
29	T55897	18	RED. CONC. 14 X 12 CED-STD	326	469	31	93					
30	S46666	99	RED. CONC. 4 X 2 CED-STD	301	471	34	117					
31	S48206	60	RED. CONC. 4 X 2 CED-STD	296	460	32	105					
32	T56126	1	CODO 12 X 45° CED-40	312	487	41	126					
33	T47856	2	CODO 12 X 45° CED-40	305	481	43	116					

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
CF	T56000	56000	0.320	0.180	0.710	0.011	0.002	0.300	0.040	0.071	0.020	0.030	0.000	0.000
CF	T56076	56076	0.310	0.170	0.720	0.009	0.002	0.270	0.060	0.051	0.014	0.030	0.000	0.000
CF	T56641	56641	0.300	0.170	0.670	0.011	0.000	0.270	0.040	0.053	0.014	0.030	0.000	0.000
HF	T56718	56718	0.310	0.180	0.670	0.009	0.000	0.280	0.040	0.073	0.016	0.030	0.000	0.000
CF	T56059	56059	0.310	0.180	0.660	0.011	0.002	0.280	0.050	0.067	0.012	0.030	0.000	0.000
CF	T56059	56059	0.310	0.180	0.660	0.011	0.002	0.280	0.050	0.067	0.012	0.030	0.000	0.000
CF	T55897	55897	0.310	0.170	0.700	0.012	0.002	0.310	0.060	0.065	0.015	0.030	0.000	0.000
CF	S46666	46666	0.320	0.180	0.750	0.007	0.002	0.280	0.050	0.038	0.020	0.020	0.001	0.002
CF	S48206	48206	0.330	0.190	0.760	0.010	0.001	0.270	0.030	0.034	0.020	0.016	0.002	0.002
HF	T56126	56126	0.300	0.170	0.680	0.010	0.002	0.270	0.050	0.059	0.017	0.030	0.000	0.000
HF	T47856	47856	0.320	0.170	0.790	0.007	0.001	0.290	0.040	0.080	0.025	0.030	0.000	0.000

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°:
11043871 11044294 11044294 11039703 11040703
11040703 11039760 11042715 11061962 11035788
10015426
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	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
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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.