



Tubos de Acero de M&C
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CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474 3.1.B)		Número: Number: 24404	Página/Page: 1 DE 1
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Vendido a: Sold to: PROVEEDORA DE MATERIALES ANGER, S.Á. DE C.V.	Pedido del Cliente No: Customers Order No: 5960 -	Lista de Empaque: Packing List: 12559	Fecha/Date: 11 de Mar
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-07, NACE MR 0175-2003 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				
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	F
1	T52309	42	CODO 8 X 45° CED-STD	322	489	42	120					
2	T51345	1	CODO 8 X 45° CED-STD	324	486	41	124					
3	T52308	101	CODO 8 X 45° CED-STD	307	480	42	122					
4	T51816	239	CODO 8 X 45° CED-STD	327	494	39	96					
5	T50878	4	CODO 8 X 45° CED-STD	318	493	41	106					
6	T49521	3	CODO 8 X 45° CED-STD	343	511	39	120					
7	T49307	6	CODO 8 X 45° CED-STD	312	487	40	117					
8	T49520	4	CODO 8 X 45° CED-STD	323	498	40	122					

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	T52309	52309	0.300	0.170	0.670	0.017	0.001	0.270	0.040	0.056	0.021	0.030	0.000	0.000
HF	T51345	51345	0.310	0.170	0.720	0.012	0.001	0.290	0.060	0.062	0.017	0.030	0.000	0.000
HF	T52308	52308	0.300	0.170	0.680	0.016	0.001	0.270	0.040	0.057	0.021	0.030	0.000	0.000
HF	T51816	51816	0.320	0.180	0.720	0.009	0.002	0.310	0.060	0.069	0.027	0.040	0.000	0.000
HF	T50878	50878	0.300	0.170	0.700	0.015	0.001	0.280	0.040	0.054	0.016	0.030	0.000	0.000
HF	T49521	49521	0.290	0.170	0.670	0.015	0.003	0.270	0.010	0.049	0.019	0.020	0.000	0.000
HF	T49307	49307	0.310	0.180	0.670	0.012	0.002	0.300	0.030	0.048	0.019	0.020	0.000	0.000
HF	T49520	49520	0.290	0.170	0.670	0.016	0.003	0.270	0.020	0.048	0.019	0.020	0.000	0.000

Certificamos que los resultados de los Análisis Químicos y Pruebas Mecánicas verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o 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 be copy of the test certificate issued by the manufacturer and/or supplier. Raw material (Seamless Pipe) certis conform to ASTM A106 Grade B N°. 10056322 10046503 10054153 10049502 10040401 10023801 10025018

"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 820°C./90°C. enfriado al aire. Formado en frío normalizado a 940°C max.</p> <p>Tiempo de permanencia 10'.</p> <p>Inspección Dimensional: Satisfactoria.</p> <p>HF: FORMADO EN CALIENTE/HOT FORMED</p>	<p>Notes:</p> <p>Hot formed fittings in a range from 820°C to 940°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 by the "R" which is permanently marked on each fitting. The values of hardness for fittings NPS 2 1/2" and smaller one 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.</p>
<p>Quality Manager / Jefe de Calidad: ING. WALDO GALLEGOS GALVAN</p>		CC