



**CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE**
(DIN EN 10204:2004E - ISO 10474 3.1.B)

Numero:
Number:
27957

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Car. Med. Aver. 2004
Agencia Postal 64
BOLSA DE COMERCIO N.º 10
S.º 111 0106 0106
27957 0000 0000 0000

Vendido a: Sold to:	PROVEEDORA DE MATERIALES ANGER, S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	6756	Lista de Empaque: Packing List:	14526	Fecha/Date:	13 de Septiembre 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 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	T65039	5	RED. CONC. 8 X 4 CED-STD	260	454	71	144					
2	T65451	9	RED. CONC. 8 X 4 CED-STD	299	475	70	151					
3	T6404	36	CODO 4 X 45° CED-STD	336	485	39	153					
4	T5292	2	CODO 4 X 45° CED-STD	321	516	32	146					
5	T6084	16	CODO 4 X 45° CED-STD	340	485	30	148					
6	T64059	1	CODO 10 X 90° R.L. CED-XS	308	473	38	148					
7	T62025	3	CODO 10 X 90° R.L. CED-XS	258	460	38	131					
8	T61177	1	CODO 10 X 90° R.L. CED-XS	265	460	37	146					
9	T65887	3	CODO 12 X 90° R.L. CED-40	317	472	69	133					
10	T63314	2	CODO 12 X 90° R.L. CED-40	323	481	37	129					
11	T6078	26	RED. CONC. 6 X 3 CED-STD	322	490	37	156					

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	T65039	65039	0.300	0.170	0.650	0.012	0.002	0.250	0.050	0.049	0.027	0.030	0.000	0.000
CF	T65451	65451	0.310	0.170	0.680	0.011	0.000	0.270	0.080	0.050	0.026	0.030	0.000	0.000
HF	T6404	6404	0.310	0.180	0.740	0.005	0.001	0.270	0.020	0.047	0.009	0.030	0.000	0.000
HF	T5292	5292	0.310	0.170	0.830	0.005	0.001	0.320	0.010	0.032	0.006	0.020	0.000	0.000
HF	T6084	6084	0.320	0.190	0.720	0.013	0.001	0.290	0.030	0.034	0.005	0.020	0.000	0.000
HF	T64059	64059	0.300	0.170	0.660	0.014	0.002	0.290	0.050	0.063	0.038	0.040	0.000	0.000
HF	T62025	62025	0.330	0.180	0.740	0.013	0.001	0.290	0.070	0.066	0.029	0.030	0.000	0.000
HF	T61177	61177	0.300	0.170	0.670	0.011	0.001	0.280	0.040	0.061	0.029	0.030	0.000	0.000
HF	T65887	65887	0.320	0.190	0.670	0.007	0.000	0.280	0.030	0.055	0.010	0.030	0.000	0.000
HF	T63314	63314	0.300	0.170	0.680	0.006	0.001	0.270	0.050	0.050	0.025	0.030	0.000	0.000
CF	T6078	6078	0.320	0.190	0.710	0.005	0.001	0.280	0.020	0.044	0.007	0.020	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) cuts conform to ASTM A106 Grade B N°:
L3029591 13034856 13055516 12080703 13030294
L3018312 12075471 12038885 13040116 13006681
L3039681
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>Notas:</p> <p>Formado en caliente a 820°C-840°C, enfriado al aire; Formado en frío normalizado a 940°C max. Tiempo de permanencia 10'. Inspección dimensional: Satisfactoria.</p> <p>HF: FORMADO EN CALIENTE/HOT FORMED</p>	<p>Notas:</p> <p>Hot formed fittings in a range from 820°C to 860°C, cooled in still air; Cold formed normalized at 940°C max. Holding time 10'. Visual dimensional check: Satisfactory.</p> <p>CF: FORMADO EN FRIO/COLD FORMED</p>	<p align="center"> Quality Manager / Jefe de Calidad: ING. WALDO GALLEGOS GALVAN </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>
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