

**CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE**
(DIN EN 10204:2004E - ISO 10474: 2013 3.1.B)

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Vendido a: Sold to:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No: Customers Order No:	26322	Lista de Empaque: Packing List:	17441	Fecha/Date:	1 de febrero de 2018
Especificaciones y Grados / Standard or Specification and Steel Grade	Seamless Fittings according to ASTM A 234 WPB-17e Conform to ASME II Ed. 2017 ASME SA-234,Grade WPB	Dimensiones y tolerancias / Dimension and tolerances	ASME B 16.9 - 2012		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	T88176	264	CODO 3 X 90° R.L. CED-STD	344	500	38	124					
2	T89387	20	CODO 6 X 90° R.C. CED-STD	302	472	39	118					
3	T88870	12	CODO 14 X 90° R.L. CED-STD	306	482	42	120					
4	T80198	40	TEE 4 CED-XS	306	485	42	120					
5	T88870	15	RED. CONC. 10 X 8 CED-STD	299	474	41	120					
6	T89388	80	CODO 4 X 45° CED-STD	289	474	36	118					
7	S42641	50	CODO 2 X 45° CED-STD	312	477	32	136					
8	T89386	40	CODO 8 X 45° CED-STD	303	481	38	118					
9	T88871	12	CODO 12 X 90° R.L. CED-STD	335	489	41	124					
10	T84134	6	CODO 12 X 90° R.L. CED-STD	301	487	40	122					
11	T89918	40	CODO 10 X 90° R.L. CED-STD	316	489	37	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	T88176	88176	0.330	0.180	0.730	0.011	0.001	0.280	0.070	0.074	0.025	0.040	0.000	0.000
HF	T89387	89387	0.310	0.180	0.680	0.005	0.001	0.270	0.040	0.071	0.016	0.030	0.000	0.000
HF	T88870	88870	0.310	0.180	0.680	0.010	0.001	0.270	0.040	0.067	0.020	0.030	0.000	0.000
HF	T80198	80198	0.320	0.180	0.710	0.007	0.001	0.270	0.040	0.071	0.019	0.030	0.000	0.000
CF	T88870	88870	0.290	0.160	0.680	0.014	0.001	0.280	0.050	0.060	0.016	0.020	0.000	0.000
HF	T89388	89388	0.310	0.180	0.680	0.006	0.001	0.270	0.050	0.073	0.020	0.030	0.000	0.000
HF	S42641	42641	0.320	0.170	0.750	0.012	0.001	0.290	0.080	0.070	0.020	0.039	0.000	0.000
HF	T89386	89386	0.310	0.180	0.670	0.005	0.001	0.270	0.050	0.071	0.025	0.030	0.000	0.000
HF	T88871	88871	0.300	0.170	0.670	0.016	0.001	0.290	0.040	0.058	0.015	0.020	0.000	0.000
HF	T84134	84134	0.300	0.170	0.670	0.007	0.001	0.270	0.030	0.059	0.018	0.030	0.000	0.000
HF	T89918	89918	0.310	0.180	0.660	0.006	0.001	0.260	0.050	0.066	0.022	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°:
17051917 18002556 17052569 16002821 17045281 17066625
17031033 17061990 17065068 18001234 18001719
"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:	Notas:
Formado en caliente a 620°C-980°C, enfriado al aire; Formado en frío normalizado a 940°C max.	Hot formed fittings in a range from 620°C to 980°C, cooled in still air, Cold formed normalized at 940°C max.
Tiempo de permanencia 10'.	Holding time 10'.
Inspección Dimensional: Satisfactoria.	Visual dimensional check: Satisfactory
HF: FORMADO EN CALIENTE/HOT FORMED	CF: FORMADO EN FRIO/COLD FORMED



Quality Manager/Jefe de Calidad:
ING. ALFONSO ORTEGA GARCIA

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.
MATERIAL ACCORDING TO NACE MR0175/ISO 15156, 2015 AND NACE MR0103,2015 ONLY HARDNESS

CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474: 2013 3.1.B)	Numero: Number:	Pagina/Page:
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Vendido a: Sold to:	Pedido del Cliente No: Customers Order No:	Lista de Empaque: Packing List:	Fecha/Date:
PLESA ANAHUAC Y CIA. S.A. DE C.V.	26322 -	17441	1 de febrero de 2013
Especificaciones y Grados / Standard or Specification and Steel Grade Seamless Fittings according to ASTM A 234 WPB-17e Conform to ASME II Ed. 2017 ASME SA-234, Grade WPB		Dimensiones y tolerancias / Dimension and tolerances ASME B 16.9 - 2012	
		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
12	T88945	17	CODO 16 X 90° R.L. CED-STD	338	494	37	124					
13	T88012	1	CODO 16 X 90° R.L. CED-STD	312	485	40	118					
14	T88854	35	CODO 3 X 90° R.C. CED-XS	336	487	36	120					
15	S41922	72	CODO 1 1/2 X 45° CED-STD	339	504	45	157					
16	T73977	2	CODO 14 X 45° CED-40	321	477	36	147					
17	T87961	4	CODO 14 X 45° CED-40	282	478	44	118					
18	T76221	1	CODO 14 X 45° CED-40	280	453	36	138					
19	S44817	20	CODO 2 X 90° R.C. CED-XS	321	491	30	139					

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	T88945	88945	0.300	0.160	0.750	0.012	0.001	0.270	0.040	0.070	0.019	0.030	0.000	0.000
HF	T88012	88012	0.310	0.180	0.680	0.011	0.001	0.280	0.040	0.052	0.022	0.030	0.000	0.000
HF	T88854	88854	0.320	0.180	0.730	0.012	0.002	0.290	0.040	0.064	0.017	0.020	0.000	0.000
HF	S41922	41922	0.320	0.190	0.750	0.009	0.001	0.310	0.020	0.010	0.010	0.014	0.003	0.001
HF	T73977	73977	0.320	0.190	0.670	0.014	0.002	0.280	0.070	0.058	0.013	0.040	0.000	0.000
HF	T87961	87961	0.310	0.180	0.680	0.007	0.001	0.270	0.030	0.067	0.020	0.030	0.000	0.000
HF	T76221	76221	0.310	0.180	0.660	0.005	0.002	0.270	0.060	0.068	0.027	0.040	0.000	0.000
HF	S44817	44817	0.317	0.180	0.730	0.008	0.001	0.290	0.040	0.030	0.020	0.014	0.002	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°: 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°: 17058986 17040797 17050157 17024873 14054482 17040909 15012673 17058326

"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	Notes: 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. ALFONSO ORTEGA GARCIA
		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. MATERIAL ACCORDING TO NACE MR0175/ISO 15156, 2015 AND NACE MR0103, 2015 ONLY HARDNESS