

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

Numero: Number:	Pagina/Page:
31330	1

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:	17379	Fecha/Date:	19 de diciembre de 2017
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		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	T89010	456	CODO 4 X 90° R.L. CED-STD	328	492	35	120					
2	T88855	200	CODO 6 X 90° R.L. CED-STD.	320	496	36	122					
3	T76855	13	TEE 6 CED-XS	293	482	46	140					
4	T75262	7	TEE 6 CED-XS	361	460	32	150					
5	T87036	50	CODO 3 X 45° CED-STD	328	484	38	116					
6	T88853	36	CODO 8 X 90° R.L. CED-XS	297	479	41	118					
7	T89386	50	CODO 6 X 90° R.L. CED-XS	295	462	42	114					
8	T89010	10	CODO 6 X 90° R.L. CED-XS	311	488	40	120					
9	T88104	36	CODO 10 X 45° CED-STD	309	498	40	122					
10	T7534	48	CODO 2 1/2 X 45° CED-STD	343	490	37	120					
11	D72220	6	RED. CONC. 16 X 12 CED-STD	316	499	39	143					

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	T89010	89010	0.330	0.180	0.770	0.014	0.001	0.290	0.050	0.064	0.020	0.030	0.000	0.000
HF	T88855	88855	0.310	0.180	0.680	0.013	0.001	0.280	0.040	0.064	0.019	0.030	0.000	0.000
HF	T76855	76855	0.320	0.180	0.740	0.007	0.001	0.290	0.030	0.073	0.026	0.040	0.000	0.000
HF	T75262	75262	0.320	0.180	0.660	0.006	0.001	0.280	0.070	0.080	0.028	0.070	0.000	0.000
HF	T87036	87036	0.300	0.170	0.700	0.012	0.001	0.300	0.040	0.048	0.015	0.020	0.000	0.000
HF	T88853	88853	0.310	0.170	0.710	0.011	0.001	0.270	0.040	0.066	0.018	0.020	0.000	0.000
HF	T89386	89386	0.300	0.170	0.670	0.005	0.001	0.270	0.040	0.071	0.017	0.030	0.000	0.000
HF	T89010	89010	0.310	0.170	0.750	0.013	0.001	0.290	0.040	0.064	0.020	0.030	0.000	0.000
HF	T88104	88104	0.310	0.180	0.680	0.012	0.001	0.320	0.040	0.062	0.014	0.030	0.000	0.000
HF	T7534	7534	0.300	0.170	0.720	0.006	0.001	0.260	0.020	0.041	0.008	0.020	0.000	0.000
CF	D72220	72220	0.351	0.180	0.780	0.012	0.002	0.200	0.110	0.110	0.030	0.080	0.002	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°: 17050915 17050110 15024042 15009741 17034823 17061899 17061988 17052651 17037515 14041057 17061844

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°: 17050915 17050110 15024042 15009741 17034823 17061899 17061988 17052651 17037515 14041057 17061844

"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

CERTIFICADO DE CALIDAD INSPECTION CERTIFICATE (DIN EN 10204:2004E - ISO 10474: 2013 3.1.B)		Numero: Number:	Pagina/Page:
		31331	2

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:	17379	Fecha/Date:	19 de diciembre de 2017
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	D69004	4	RED. CONC. 16 X 12 CED-STD	349	548	34	135					
13	S74455	60	CODO 1 1/4 X 45° CED-STD	372	535	47	116					
14	T8111	5	CODO 3 X 45° CED-XS	297	471	32	150					
15	T87812	30	CODO 3 X 45° CED-XS	318	475	37	120					
16	T7536	8	CODO 3 X 45° CED-XS	318	488	31	159					
17	T7194	7	CODO 3 X 45° CED-XS	289	480	33	160					
18	T72649	3	TEE 12 CED-80	260	451	41	135					
19	T6971	30	CODO 5 X 45° CED-XS	288	479	42	120					
20	T86921	6	TEE 14 CED-STD	345	497	44	124					
21	T8434	30	CODO 2 1/2 X 45° CED-XS	338	493	38	130					
22	T71906	50	CODO 1 X 45° CED-STD	287	444	51	116					

ANALISIS QUIMICO / CHEMICAL ANALYSIS														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°: 17017674 16011034 14028214 17046609 14012785 13093401 15015242 14044789 17024536 14040494 F00016323
PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P./MOTHER PIPE	%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	
CF	D69004	69004	0.420	0.180	0.960	0.012	0.002	0.210	0.210	0.140	0.070	0.130	0.003	0.001
HF	S74455	74455	0.320	0.180	0.750	0.017	0.001	0.280	0.050	0.050	0.020	0.024	0.001	0.001
HF	T8111	8111	0.320	0.190	0.710	0.006	0.002	0.280	0.020	0.047	0.007	0.020	0.000	0.000
HF	T87812	87812	0.320	0.180	0.730	0.008	0.001	0.290	0.030	0.066	0.014	0.030	0.000	0.000
HF	T7536	7536	0.310	0.180	0.710	0.007	0.001	0.280	0.020	0.040	0.007	0.030	0.000	0.000
HF	T7194	7194	0.310	0.180	0.720	0.005	0.001	0.270	0.040	0.030	0.006	0.020	0.000	0.000
HF	T72649	72649	0.310	0.170	0.660	0.006	0.001	0.280	0.070	0.069	0.016	0.050	0.000	0.000
HF	T6971	6971	0.310	0.180	0.700	0.005	0.002	0.300	0.020	0.041	0.010	0.020	0.000	0.000
HF	T86921	86921	0.310	0.180	0.660	0.009	0.003	0.260	0.040	0.055	0.014	0.030	0.000	0.000
HF	T8434	8434	0.310	0.180	0.690	0.006	0.001	0.290	0.040	0.032	0.009	0.020	0.000	0.000
HF	T71906	71906	0.260	0.150	0.550	0.016	0.002	0.170	0.070	0.104	0.022	0.050	0.000	0.000

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
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