

FLM-005-7



PROCARSA, S.A. DE C.V.

**CERTIFICADO DE CALIDAD  
DE PRUEBAS MECANICAS Y ANALISIS QUIMICO**

QUALITY CERTIFICATE OF MECHANICAL TESTS AND CHEMICAL ANALYSES

CLIENTE: PLESA ANAHUAC Y CIAS. S.A. DE C.V.

CUSTOMER:

PEDIDO CLIENTE / P.O.

PEDIDO INTERNO / I.O. 15737

PARTIDA (S)

ITEMS 139322-10 / T-01-13

NUMERO PTM-04086-2014

NUMBER

FECHA

DATE

FEBRERO 18, 2014

DIAMETRO EXTERIOR:

16"

ESPESOR DE PARED:

WALL THICKNESS:

0.312"

GRADO:

GRADE: ASTM A53-B

PRESION HIDROSTATICA:

HIDROSTATIC TEST:

58 Kg/cm<sup>2</sup>

820 PSI

HOJA 1 DE 2

REQUERIMIENTOS DE PRUEBAS DE TENSION / TENSILE TEST REQUIREMENTS

LIMITE ELASTICO / YIELD STRENGTH	ULTIMA TENSION / TENSILE STRENGTH	% ELONG.	LE/UT	C	Mn	P	S	Cb	Cb+V	Cb+V+Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	CE IIW	CE Pcm
35000 PSI MIN.	60000 PSI MIN.	27 min.	---	0.300 max	1.200 max	0.050 max	0.045 max	---	---	---	---	0.500 max	---	---	0.400 max	0.400 max	0.150 max	---	---	---

NUMPROBETA DESCRIPTION	COLADA HEAT	LIMITE ELASTICO YIELD STRENGTH (P.S.I.)	ULTIMA TENSION TENSILE STRENGTH (P.S.I.)	% ELONG. 2"	LE/UT Y/ST.S	C	Mn	P	S	Cb	V	Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	CE IIW	CE Pcm
313-15 Tc Ts	131986	70 211	83 799 92 441	32	0.83	0.078	1.15	0.018	0.004	0.050	0.0020	0.010	0.187	0.026	0.020	0.003	0.013	0.020	0.004	0.0066		
297-7 Tc Ts	131997	69 175	80 064 84 262	35	0.86	0.079	1.17	0.018	0.005	0.048	0.0020	0.011	0.174	0.030	0.020	0.003	0.018	0.021	0.006	0.0055		
291-2 Tc Ts	232010	66 747	80 458 84 094	36	0.82	0.087	1.17	0.016	0.005	0.045	0.0020	0.012	0.168	0.032	0.033	0.003	0.020	0.026	0.005	0.0057		
384-4 Tc Ts	232055	70 123	84 500 88 516	40	0.82	0.090	1.16	0.014	0.004	0.050	0.0020	0.011	0.182	0.035	0.032	0.003	0.014	0.023	0.007	0.0051		
425-12 Tc Ts	232056	69 657	82 205 89 359	34	0.84	0.090	1.17	0.016	0.005	0.050	0.0020	0.012	0.188	0.032	0.044	0.003	0.018	0.022	0.006	0.0052		
406-7 Tc Ts	232060	71 520	85 398 86 686	35	0.83	0.081	1.15	0.016	0.006	0.047	0.0020	0.011	0.187	0.030	0.041	0.002	0.017	0.022	0.005	0.0051		
494-12 Tc Ts	232754	68 141	83 952 90 257	33	0.81	0.079	1.15	0.015	0.005	0.048	0.0030	0.012	0.171	0.041	0.034	0.002	0.020	0.025	0.004	0.0051		
5-14 Tc Ts	1212259811	72 946	81 043 81 270	35	0.90	0.054	1.14	0.008	0.001	0.049	0.0000	0.001	0.162	0.024	0.027	0.001	0.013	0.010	0.003	0.0008		
192-14 Tc Ts	1301187040	69 718	82 086 89 359	34	0.84	0.051	1.13	0.010	0.002	0.058	0.0000	0.000	0.165	0.038	0.029	0.002	0.016	0.017	0.004	0.0087		
110-11 Tc Ts	1301187050	77 606	86 985 90 071	30	0.89	0.055	1.15	0.008	0.001	0.057	0.0000	0.000	0.192	0.039	0.030	0.002	0.015	0.017	0.004	0.0090		
31-14 Tc Ts	1301187070	74 387	83 091 92 076	33	0.89	0.058	1.13	0.010	0.002	0.052	0.0000	0.000	0.199	0.066	0.022	0.002	0.016	0.023	0.007	0.0069		
63-1 Tc Ts	1301187080	78 578	91 525 90 879	30	0.85	0.056	1.17	0.009	0.001	0.054	0.0050	0.001	0.175	0.078	0.029	0.002	0.020	0.035	0.009	0.0105		
124-15 Tc Ts	1301187100	69 629	82 956 88 459	33	0.83	0.056	1.16	0.009	0.003	0.054	0.0050	0.001	0.180	0.069	0.034	0.002	0.025	0.034	0.010	0.0079		

CERTIFICAMOS QUE LA TUBERIA AQUÍ DESCRITA CUMPLE Y HA SIDO FABRICADA, MUESTREADA, PROBADA E INSPECCIONADA DE ACUERDO CON LOS REQUISITOS APLICABLES DE LA ESPECIFICACION:

ASTM -10

WE CERTIFY THAT THE ABOVE DESCRIBED PIPE HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATION, AND MEETS THE APPLICABLE REQUIREMENTS THEREIN

ING. ALEJANDRO LARCON CAZARES  
JEFE DE LABORATORIO METALURGICO  
METALLURGICAL LABORATORY CHIEF



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 DE PRUEBAS MECANICAS Y ANALISIS QUIMICO**  
 QUALITY CERTIFICATE OF MECHANICAL TESTS AND CHEMICAL ANALYSES

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 CUSTOMER:  
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 PARTIDA (S)  
 ITEMS 139322-10 / T-01-13

NUMERO PTM-04086-2014  
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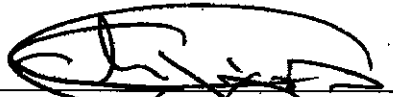
DIAMETRO EXTERIOR : 16" ESPOSOR DE PARED : 0.312" GRADO : ASTM A53-B PRESION HIDROSTATICA: 58 Kg/cm<sup>2</sup> 820 PSI HOJA 2 DE 2  
 OUTSIDE DIAMETER : WALL THICKNESS : GRADE : HIDROSTATIC TEST:

REQUERIMIENTOS DE PRUEBAS DE TENSION / TENSILE TEST REQUIREMENTS				REQUERIMIENTOS DE ANALISIS QUIMICO % EN PESO / CHEMICAL ANALYSES BY PERCENTAGE OF WEIGHT REQUIREMENTS																
LIMITE ELASTICO / YIELD STRENGTH	ULTIMA TENSION / TENSILE STRENGTH	% ELONG.	L.E./L.T.	C	Mn	P	S	Cb	Cb+V	Cb+V+Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	CE IIW	CE Pcm
35000 PSI MIN.	60000 PSI MIN.	27 min.	---	0.300 max	1.200 max	0.050 max	0.045 max	---	---	---	---	0.500 max	---	---	0.400 max	0.400 max	0.150 max	---	---	---

NUM. PROBETA / DESCRIPTION	COLADA / HEAT	LIMITE ELASTICO / YIELD STRENGTH (P.S.I.)	ULTIMA TENSION / TENSILE STRENGTH (P.S.I.)	% ELONG.	L.E./L.T. / Y.S./T.S.	C	Mn	P	S	Cb	V	Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	CE IIW	CE Pcm
70-15 Tc Ts	1301187140	76 918	87 070 89 406	32	0.88	0.055	1.11	0.011	0.002	0.053	0.0000	0.000	0.190	0.052	0.025	0.002	0.019	0.027	0.007	0.0080		
25-5 Tc Ts	1301187150	76 727	86 048 87 298	32	0.89	0.054	1.14	0.010	0.004	0.052	0.0000	0.000	0.184	0.054	0.028	0.002	0.016	0.025	0.006	0.0072		
88-17 Tc Ts	1301187180	76 799	87 032 89 857	33	0.88	0.055	1.18	0.010	0.004	0.054	0.0000	0.000	0.178	0.055	0.028	0.002	0.022	0.023	0.006	0.0068		
121-9 Tc Ts	1301187180	73 709	83 742 91 155	34	0.88	0.061	1.14	0.009	0.002	0.049	0.0040	0.001	0.197	0.043	0.026	0.002	0.013	0.021	0.004	0.0070		
195-16 Tc Ts	1301261230	71 080	84 064 88 598	32	0.84	0.052	1.17	0.011	0.003	0.053	0.0000	0.000	0.180	0.027	0.032	0.002	0.013	0.011	0.003	0.0074		
209-13 Tc Ts	1301261250	77 603	86 078 88 262	33	0.90	0.055	1.13	0.010	0.003	0.055	0.0000	0.000	0.171	0.055	0.024	0.002	0.016	0.026	0.010	0.0070		
131-2 Tc Ts	1301261280	75 337	85 141 90 278	33	0.88	0.060	1.18	0.010	0.001	0.053	0.0000	0.000	0.167	0.071	0.029	0.002	0.019	0.025	0.010	0.0059		
91-8 Tc Ts	1301261350	78 742	87 864 90 368	30	0.89	0.059	1.17	0.010	0.001	0.058	0.0050	0.002	0.216	0.049	0.030	0.003	0.018	0.022	0.005	0.0073		

CERTIFICAMOS QUE LA TUBERIA AQUÍ DESCRITA CUMPLE Y HA SIDO FABRICADA, MUESTREADA, PROBADA E INSPECCIONADA DE ACUERDO CON LOS REQUISITOS APLICABLES DE LA ESPECIFICACION:  
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WE CERTIFY THAT THE ABOVE DESCRIBED PIPE HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATION, AND MEETS THE APPLICABLE REQUIREMENTS THEREIN

  
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