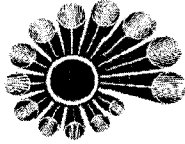


FLM-005-7



PROCARSA, S.A. DE C.V.

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

INSPECTION 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. 16137

PARTIDA (S)

ITEMS 199645-10 / 200860-30 / 201276-70 / 202355-10 / 203874-10

NUMERO  
NUMBERFECHA  
DATE

MARZO 28, 2018

PTM-05921-2018

DIAMETRO EXTERIOR :

12 3/4"

ESPESOR DE PARED :

0.250"

GRADO :

ASTM A53-B

PRESION HIDROSTATICA:

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

820 PSI

HOJA 1 DE 2

OUTSIDE DIAMETER :

WALL THICKNESS :

GRADE :

HIDROSTATIC TEST:

## REQUERIMIENTOS DE PRUEBAS DE TENSION / TENSILE TEST REQUIREMENTS


LIMITE ELASTICO / YIELD STRENGTH	ULTIMA TENSION / TENSILE STRENGTH	% ELONG.	L.E./U.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.	26 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	---	---	---

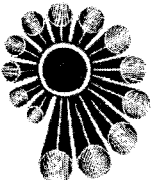
NUM.PROBETA DESCRIPTION	COLADA HEAT	LIMITE ELASTICO YIELD STRENGTH (P.S.I.)	ULTIMA TENSION TENSILE STRENGTH (P.S.I.)	% ELONG. 2"	LE/UT Y.S/T.S	C	Mn	P	S	Cb	V	Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	CE IIW	CE Pcm
4-16 Tc	172249	59 100	70 926	38	0.83	0.069	1.14	0.016	0.005	0.019	0.0040	0.009	0.210	0.031	0.029	0.004	0.021	0.019	0.007	0.0047		
Ts			76 548																			
3-26 Tc	173893	65 748	74 012	40	0.89	0.071	1.13	0.013	0.002	0.018	0.0030	0.009	0.200	0.020	0.028	0.004	0.023	0.021	0.005	0.0056		
Ts			80 545																			
17-26 Tc	173895	56 571	73 462	35	0.77	0.069	1.16	0.013	0.003	0.018	0.0030	0.010	0.200	0.031	0.036	0.003	0.026	0.026	0.007	0.0056		
Ts			77 261																			
45-26 Tc	173899	62 879	73 176	37	0.86	0.066	1.11	0.012	0.003	0.018	0.0030	0.008	0.200	0.023	0.035	0.004	0.022	0.022	0.007	0.0056		
Ts			80 529																			
25-27 Tc	173900	63 912	72 712	39	0.88	0.076	1.20	0.011	0.005	0.017	0.0030	0.007	0.200	0.044	0.030	0.004	0.021	0.023	0.007	0.0056		
Ts			81 526																			
22-27 Tc	173901	63 687	73 793	35	0.86	0.069	1.15	0.014	0.003	0.019	0.0030	0.009	0.200	0.037	0.039	0.003	0.019	0.023	0.007	0.0056		
Ts			79 457																			
10-12 Tc	173902	61 013	70 782	38	0.86	0.069	1.14	0.014	0.004	0.019	0.0030	0.009	0.210	0.023	0.040	0.004	0.020	0.021	0.008	0.0056		
Ts			79 298																			
162-20 Tc	173910	62 262	71 675	38	0.87	0.075	1.17	0.015	0.002	0.018	0.0030	0.009	0.220	0.038	0.033	0.003	0.021	0.025	0.008	0.0056		
Ts			78 376																			
91-26 Tc	173915	62 368	73 333	40	0.85	0.076	1.17	0.013	0.003	0.018	0.0030	0.008	0.210	0.029	0.036	0.003	0.026	0.025	0.007	0.0056		
Ts			79 242																			
83-26 Tc	173919	63 631	71 087	40	0.90	0.069	1.13	0.015	0.003	0.017	0.0030	0.008	0.210	0.020	0.033	0.003	0.021	0.020	0.005	0.0056		
Ts			76 457																			
62-26 Tc	173921	61 500	72 302	35	0.85	0.076	1.20	0.013	0.003	0.017	0.0030	0.008	0.210	0.023	0.032	0.003	0.024	0.026	0.006	0.0056		
Ts			80 094																			
63-26 Tc	173923	57 621	71 746	32	0.80	0.072	1.12	0.014	0.002	0.018	0.0020	0.006	0.210	0.022	0.031	0.003	0.021	0.023	0.005	0.0056		
Ts			80 143																			
168-3 Tc	173924	61 969	69 728	40	0.89	0.068	1.11	0.014	0.004	0.018	0.0020	0.007	0.210	0.023	0.028	0.003	0.022	0.023	0.005	0.0056		
Ts			74 294																			
60-26 Tc	173926	59 558	71 630	40	0.83	0.071	1.12	0.014	0.004	0.017	0.0030	0.008	0.200	0.028	0.033	0.003	0.024	0.023	0.007	0.0056		
Ts			79 018																			

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 A53

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 ABADEÓN CAZARES  
 JEFE DE LABORATORIO METALURGICO  
 METALLURGICAL LABORATORY CHIEF



FLM-005-7  
**PROCARSA, S.A. DE C.V.**

**CERTIFICADO DE INSPECCION  
 DE PRUEBAS MECANICAS Y ANALISIS QUIMICO**  
 INSPECTION CERTIFICATE OF MECHANICAL TESTS AND CHEMICAL ANALYSES

CLIENTE: PLESA ANAHUAC Y CIAS, S.A. DE C.V. **NUMERO** PTM-05921-2018  
 CUSTOMER:  
 PEDIDO CLIENTE / P.O. 16137  
 PEDIDO INTERNO / I.O. PARTIDA (S) 199645-10 / 200860-30 / 201276-70 / 202355-10 / 203874-10  
 FECHA DATE MARZO 28, 2018

DIAMETRO EXTERIOR: 12 3/4" **ESPESOR DE PARED:** 0.250" **GRADO:** ASTM A53-B **PRESSION HIDROSTATICA:** 820 PSI **HOJA 2 DE 2**  
 OUTSIDE DIAMETER: 12 3/4" **WALL THICKNESS:** 0.250" **GRADO:** ASTM A53-B **HIDROSTATIC TEST:** 820 PSI


**REQUERIMIENTOS DE PRUEBAS DE TENSION / TENSILE TEST REQUIREMENTS**  
 LIMITE ELASTICO / YIELD STRENGTH ULTIMA TENSION / TENSILE STRENGTH % ELONG. L.E./U.L. C Min P S Cb Cb+V Cb+V+Ti Si Cu Al Ca Cr Ni Mo N CE III' CE IV' CE Pcm  
 35000 PSI MIN. 60000 PSI MIN. 26 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. PROBE / DESCRIPTION	COLADA HEAT	LIMITE ELASTICO YIELD STRENGTH (PSI)	ULTIMA TENSION TENSILE STRENGTH (PSI)	% ELONG. 2"	L.E./U.L. V.S/T.S	C	Min	P	S	Cb	Cb+V	Cb+V+Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	CE III'	CE IV'	CE Pcm
61-26 Tc	173927	58 108	70 709	40	0.82	0.074	1.14	0.011	0.004	0.017	0.0030	0.008	0.210	0.037	0.036	0.004	0.021	0.022	0.006	0.0056			
5-26 Tc	176001	66 348	77 107	37	0.92	0.076	1.16	0.013	0.006	0.018	0.0030	0.007	0.210	0.023	0.035	0.004	0.020	0.020	0.006	0.0052			
105-26 Tc	176402	59 199	72 003	34	0.82	0.080	1.15	0.019	0.004	0.018	0.0050	0.010	0.200	0.018	0.034	0.004	0.018	0.018	0.006	0.0054			
106-18 Tc	176417	54 125	76 930	38	0.74	0.066	1.14	0.013	0.004	0.018	0.0040	0.008	0.210	0.015	0.034	0.003	0.014	0.016	0.006	0.0053			
67-18 Tc	177892	62 894	72 683	39	0.86	0.080	1.14	0.011	0.003	0.018	0.0030	0.007	0.210	0.025	0.028	0.002	0.017	0.020	0.004	0.0053			
52-18 Tc	177895	58 725	75 850	42	0.84	0.066	1.14	0.012	0.004	0.018	0.0030	0.010	0.210	0.032	0.029	0.003	0.025	0.021	0.006	0.0052			
74-26 Tc	177897	67 285	70 076	36	0.90	0.071	1.13	0.015	0.004	0.018	0.0030	0.009	0.220	0.032	0.035	0.002	0.018	0.022	0.005	0.0052			
50-27 Tc	177902	58 493	74 650	36	0.81	0.079	1.14	0.015	0.003	0.018	0.0030	0.008	0.210	0.027	0.037	0.003	0.019	0.020	0.004	0.0052			
50-1 Tc	274163	65 632	76 596	32	0.88	0.081	1.13	0.012	0.005	0.018	0.0030	0.009	0.220	0.030	0.040	0.004	0.021	0.026	0.007	0.0056			

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

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

ASTM A53

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