



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. 16110
 PEDIDO INTERNO / I.O.
 PARTIDA (S)
 ITEMS 510920-50 / T-02-12

NUMERO PIM-05586-1-2016
 NUMBER
 FECHA
 DATE
 SEPTIEMBRE 24, 2016

DIAMETRO EXTERIOR: 12 3/4" ESPESOR DE PARED: 0.406" GRADO: ASTM A53-B PRESION HIDROSTATICA: 94 Kg/cm² 1,340 PSI
 OUTSIDE DIAMETER: WALL THICKNESS: REQUERIMIENTOS DE PRUEBAS DE TENSION / TENSILE TEST REQUIREMENTS

35000 PSI MIN. 60000 PSI MIN. 28 min. L.E./U.T. C 0.300 max Mm 1.200 max P 0.050 max S 0.045 max Cb --- Cb+V --- Cb+V+Ti --- Si --- Cu 0.500 max Al --- Ca --- Cr 0.400 max Ni 0.400 max Mo 0.150 max CE IIV --- CE Pem ---

NUM. PROBE / DESCRIPTION	COLADA HEAT	LIMITE ELASTICO YIELD STRENGTH (P.S.I.)	ULTIMA TENSION TENSILE STRENGTH (P.S.I.)	% ELONG. 2"	LE/UT Y/STS	C	Mn	P	S	Cb	V	Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	CE IIV	CE Pem
4-3 TC TS	219833	57 796	66 070	40	0.87	0.111	0.81	0.015	0.005	0.001	0.0010	0.004	0.230	0.032	0.041	0.002	0.019	0.018	0.006	0.0050		
16-17 TC TS	219836	67 318	72 561	41	0.88	0.113	0.82	0.018	0.005	0.002	0.0010	0.003	0.229	0.028	0.034	0.002	0.021	0.018	0.005	0.0051		
4-17 TC TS	MS1122217012	59 049	68 320	42	0.86	0.133	0.88	0.009	0.004	0.001	0.0020	0.001	0.181	0.016	0.023	--	--	0.022	--	--		
8-7 TC TS	MS1132561012	52 058	74 780	45	0.79	0.132	0.86	0.010	0.001	0.001	0.0020	0.001	0.205	0.007	0.039	--	--	0.023	--	--		
11-17 TC TS	MS1142404012	56 569	68 323	45	0.82	0.140	0.85	0.010	0.002	0.001	0.0020	0.001	0.209	0.008	0.036	--	--	0.019	--	--		
3-17 TC TS	MS1142407012	59 472	76 196	45	0.85	0.140	0.84	0.012	0.003	0.001	0.0020	0.001	0.188	0.008	0.038	--	--	0.020	--	--		
2-3 TC TS	WA4469343004	52 845	69 851	44	0.83	0.120	0.91	0.017	0.005	0.001	0.0040	0.002	0.210	0.002	0.033	--	--	0.010	--	--		
9-15 TC TS	WA4482507004	55 774	70 106	47	0.84	0.130	0.89	0.015	0.005	0.001	0.0050	0.003	0.200	0.001	0.031	--	--	0.010	--	--		

CERTIFICAMOS QUE LA TUBERIA AQUÍ DESCRITA CUMPLE Y HA SIDO FABRICADA, MUESTREADA, PROBADA E INSPECCIONADA DE ACUERDO CON LOS REQUISITOS APLICABLES 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 -10

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



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 CUSTOMER: PEDIDO CLIENTE / P.O. 16110
 PEDIDO INTERNO / I.O. PARTIDA (S) 135667-40

NUMERO PTM-05586-2016
 NUMBER FECHA DATE
 SEPTIEMBRE 24, 2016

DIAMETRO EXTERIOR : 14"

ESPESOR DE PARED : WALL THICKNESS : 0.375"

GRADO : ASTM A53-B

PRESSION HIDROSTATICA: HIDROSTATIC TEST:

79 Kg/cm² 1,130 PSI

REQUERIMIENTOS DE PRUEBAS DE TENSION / TENSILE TEST REQUIREMENTS

LIMITE ELASTICO / YIELD STRENGTH ULTIMA TENSION / TENSILE TEST REQUIREMENTS

35000 PSI MIN. 60000 PSI MIN. 28 min. ...

REQUERIMIENTOS DE ANALISIS QUIMICO % EN PESO / CHEMICAL ANALYSES BY PERCENTAGE OF WEIGHT REQUIREMENTS

C Mn P S Cb V Ti Si Cu Al Ca Cr Ni Mo N CE IIW CE Pcm

NUM. PROBE / 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
5-17 Tc Ts	229517	60 534	71 486 77 800	37	0.84	0.117	0.77	0.013	0.005	0.001	0.0030	0.003	0.238	0.017	0.032	0.003	0.019	0.017	0.003	0.0041		
2-13 Tc Ts	229518	50 507	66 083 72 640	44	0.76	0.120	0.81	0.015	0.008	0.002	0.0030	0.003	0.231	0.018	0.037	0.003	0.017	0.022	0.004	0.0036		

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