

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: CUSTOMER:	PLESA ANAHUAC Y CIAS. S.A. DE C.V.	NUMERO NUMBER	PTM-02455-2012 E. RUIZ
PEDIDO CLIENTE / P.O. PEDIDO INTERNO / I.O.	15291	FECHA DATE	SEPTIEMBRE 07, 2012
PARTIDA (S) ITEMS	119628-30 / 508556-90 / 510579-20 / 125268-10 / 127884-10		

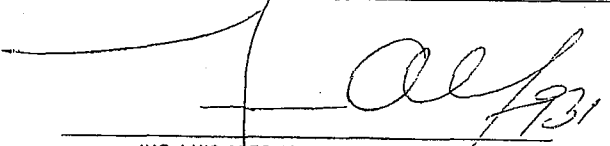
DIAMETRO EXTERIOR : SIDE DIAMETER :	16"	ESPESOR DE PARED : WALL THICKNESS :	0.500"	GRADO : GRADE :	ASTM A53-B	PRESION HIDROSTATICA : HYDROSTATIC TEST :	92 Kg/cm <sup>2</sup> 1,310 PSI	HOJA 1 DE 2	
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REQUERIMIENTOS DE PRUEBAS DE TENSION / TENSILE TEST REQUIREMENTS				REQUERIMIENTOS DE ANALISIS QUIMICO % EN PESO / CHEMICAL ANALYSES BY PERCENTAGE OF WEIGHT REQUIREMENTS																
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.	30 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	---	---	---

M.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
8-7 Tc Ts	109339	79 916	87 071 85 287	33	0.91	0.073	0.95	0.016	0.005	0.044	0.0320	0.003	0.223	0.229	0.035	0.002	0.022	0.017	0.007	0.0080		
50-8 Tc Ts	114741	71 489	76 870 76 329	33	0.93	0.060	0.66	0.016	0.005	0.034	0.0020	0.004	0.187	0.234	0.042	0.003	0.020	0.017	0.006	0.0065		
17-11 Tc Ts	117356	70 207	77 549 83 492	33	0.90	0.065	0.95	0.015	0.003	0.046	0.0330	0.003	0.202	0.226	0.030	0.003	0.025	0.026	0.006	0.0055		
45-8 Tc Ts	211457	58 858	66 735 73 301	40	0.88	0.051	0.64	0.017	0.005	0.034	0.0020	0.003	0.201	0.224	0.033	0.003	0.016	0.020	0.003	0.0056		
44-10 Tc Ts	211904	64 214	71 411 75 928	35	0.89	0.055	0.75	0.016	0.005	0.039	0.0040	0.005	0.181	0.220	0.044	0.004	0.020	0.020	0.009	0.0068		
29-8 Tc Ts	219090	62 260	71 204 70 607	40	0.87	0.059	0.67	0.013	0.003	0.032	0.0020	0.003	0.176	0.215	0.029	0.003	0.023	0.020	0.006	0.0053		
20-7 Tc Ts	219094	56 898	71 941 74 355	44	0.79	0.064	0.65	0.012	0.005	0.032	0.0040	0.003	0.163	0.218	0.033	0.002	0.017	0.017	0.004	0.0057		
34-11 Tc Ts	219097	63 232	71 239 75 689	34	0.88	0.043	0.64	0.014	0.005	0.035	0.0030	0.003	0.184	0.228	0.033	0.003	0.016	0.018	0.004	0.0040		
37-10 Tc Ts	219099	60 293	69 146 73 642	43	0.87	0.049	0.66	0.017	0.004	0.034	0.0040	0.003	0.183	0.218	0.035	0.002	0.016	0.015	0.004	0.0041		
1-2 Tc Ts	220035	73 449	88 765 82 136	35	0.82	0.084	0.98	0.018	0.002	0.050	0.0290	0.007	0.235	0.234	0.043	0.002	0.034	0.023	0.007	0.0048		
77-9 Tc Ts	221063	68 611	81 247 82 341	38	0.84	0.070	0.92	0.016	0.004	0.044	0.0300	0.003	0.187	0.217	0.036	0.003	0.020	0.021	0.006	0.0051		
14-8 Tc Ts	221064	71 028	82 630 82 501	36	0.85	0.075	0.94	0.015	0.004	0.044	0.0300	0.004	0.179	0.224	0.034	0.003	0.020	0.021	0.006	0.0056		
78-9 Tc Ts	221066	68 005	81 120 80 391	40	0.83	0.060	0.93	0.018	0.004	0.044	0.0300	0.004	0.200	0.214	0.028	0.003	0.022	0.022	0.005	0.0061		

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. LUIS ALFONSO DE LOS SANTOS RIVERA  
 JEFE DE LABORATORIO METALURGICO  
 METALLURGICAL LABORATORY CHIEF

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 CUSTOMER: E. RUIZ  
 PEDIDO CLIENTE / P.O.      PEDIDO INTERNO / I.O. 15291  
 PARTIDA (S)      FECHA SEPTIEMBRE 07, 2012  
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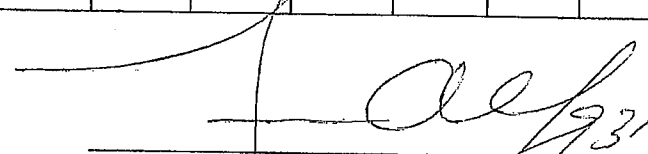
DIAMETRO EXTERIOR : 16"      ESPESOR DE PARED : 0.500"      GRADO : ASTM A53-B      PRESION HIDROSTATICA: 92 Kg/cm<sup>2</sup> 1,310 PSI  
 TSIDE DIAMETER : WALL THICKNESS : GRADE :      HIDROSTATIC TEST:      HOJA 2 DE 2

REQUERIMIENTOS DE PRUEBAS DE TENSION / TENSILE TEST REQUIREMENTS				REQUERIMIENTOS DE ANALISIS QUIMICO % EN PESO / CHEMICAL ANALYSES BY PERCENTAGE OF WEIGHT REQUIREMENTS																
RITE 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.	30 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	---	---	---

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86-6 Tc Ts	221067	75 977	90 427 83 753	35	0.84	0.089	0.93	0.014	0.003	0.042	0.0280	0.003	0.175	0.219	0.030	0.002	0.018	0.017	0.006	0.0056		
88-9 Tc Ts	221073	70 788	88 451 83 148	35	0.80	0.074	0.93	0.013	0.003	0.043	0.0280	0.003	0.187	0.229	0.022	0.002	0.020	0.020	0.005	0.0054		

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