



FLM-0005-7
PROCARSA, S.A. DE C.V.

**CERTIFICADO DE CALIDAD
 DE PRUEBAS FISICAS-QUIMICAS**

QUALITY CERTIFICATE OF TEST PHYSICALS-CHEMICAL

CLIENTE: PLEUSA ANAHUAC Y CIAS. S.A. DE C.V.
 CUSTOMER: PLEUSA ANAHUAC Y CIAS. S.A. DE C.V.
 PEDIDO CLIENTE P/O: 2228
 PEDIDO INTERNO/I.O.: 2228
 PARTIDA (S): 88978-110 / 91682-10 / 65868-10
 ITEMS

NUMERO: PTM-74667-2009
 NUMBER: PTM-74667-2009
 FECHA: ABRIL 22, 2009
 DATE: ABRIL 22, 2009

DIAMETRO: 20" ESPESOR DE PARED: 0.250" GRADO: ASTM A53-B
 DEWATER: 20" WALL THICKNESS: 0.250" GRADE: ASTM A53-B

**PRUEBAS DE TENSION
 TENSILE TEST**

IDENTIFICACION DESCRIPTION	COLUMA HEAT	LIMITE ELASTICO YIELD STRENGTH (KSI)	OTRIMA TENSION TENSILE STRENGTH (KSI)	% ELONG. %	LENG. INCHES	C	Min	P	S	CB	V	Ti	Si	Cu	Al	Ca	Cr	Ni	Mn	N	Ceq
7-15 Tc Ts	172849	43 647	65 012 71 199	37	0.67	0.120	0.79	0.013	0.008	0.002	0.001	0.003	0.300	0.027	0.036	0.003	0.023	0.021	0.005	0.0030	
4-8 Tc Ts	176261	43 661	64 183 70 332	38	0.88	0.137	0.79	0.012	0.006	0.003	0.004	0.004	0.310	0.030	0.033	0.003	0.020	0.030	0.007	0.0063	
3-18 Tc Ts	272457	43 540	64 587 73 663	39	0.67	0.130	0.80	0.013	0.005	0.001	0.002	0.002	0.280	0.018	0.037	0.003	0.021	0.021	0.003	0.0035	
4-2 Tc Ts	272458	43 887	64 564 72 747	39	0.68	0.140	0.79	0.011	0.003	0.002	0.001	0.002	0.300	0.014	0.036	0.004	0.018	0.020	0.004	0.0036	
5-18 Tc Ts	272608	44 030	62 353 57 142	38	0.71	0.132	0.83	0.018	0.008	0.004	0.003	0.004	0.305	0.030	0.026	0.002	0.020	0.030	0.008	0.0051	
3-18 Tc Ts	272607	44 373	64 997 74 376	40	0.68	0.128	0.81	0.014	0.008	0.003	0.003	0.004	0.298	0.020	0.020	0.002	0.030	0.030	0.007	0.0056	

**CHEMICAL ANALYSIS PERCENT WEIGHT
 ANALISIS QUIMICO % EN PESO**

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

WE CERTIFY THE PIPE ABOVE MENTIONED ACCOMPLISH AND HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF SPECIFICATIONS:

ASTM A53-B-06

ING. CAROLINO OSORNO PEREZ
 GERENTE DE ASESORAMIENTO DE CALIDAD
 QUALITY ASSURANCE MANAGER

FLM-005-7

PROCARSA, S.A. DE C.V.

**CERTIFICADO DE CALIDAD
DE PRUEBAS FISICAS-QUIMICAS**

QUALITY CERTIFICATE OF TEST PHYSICALS-CHEMICAL

CLIENTE:	PLESA AVAHI/AC Y GAS, S.A. DE C.V.	PROCESO:	PTM-14668-2009
CUSTOMER:		NUMBER:	
CLIENTE N/O:	2120	FECHA:	ABRIL 22, 2009
ORDEN INTERNO/ I.O.:		DATE:	
PARTIDA (S):	8976-110 / 91652-18 / 65960-18		
ITEMS:			

DIAMETRO: 20" ESPESSOR DE PARED: 0.250" GRADO: ASTM A53-B ANALISIS QUIMICO % EN PESO: 37 kg/cm² 570 PSI

TENSILE TEST


IDENTIFICACION	COLADA	YIELD STRENGTH (PSI)	UTMIA TENSION (PSI)	% ELONG. T	LENGT YPT3	C	Mn	P	S	Co	V	Ti	Si	Cu	Al	Ca	Cr	Ni	Mg	N	Ceq
7-15 TC TS	172849	43 847	65 012	37	0.67	0.120	0.79	0.013	0.006	0.002	0.001	0.003	0.300	0.027	0.036	0.003	0.023	0.021	0.005	0.0050	
2-12 TC TS	178280	44 382	71 199	38	0.70	0.129	0.79	0.013	0.006	0.002	0.003	0.004	0.301	0.020	0.036	0.003	0.020	0.030	0.008	0.0061	
10-8 TC TS	253588	49 340	68 751	39	0.70	0.176	1.08	0.017	0.006	0.003	0.005	0.004	0.190	0.020	0.041	0.002	0.030	0.030	0.004	0.0053	
3-18 TC TS	272457	43 540	75 259	39	0.67	0.130	0.80	0.013	0.005	0.001	0.002	0.002	0.280	0.018	0.037	0.003	0.021	0.021	0.003	0.0035	
9-10 TC TS	278201	44 077	73 663	39	0.70	0.119	0.78	0.015	0.007	0.004	0.002	0.003	0.282	0.031	0.035	0.003	0.022	0.023	0.007	0.0045	
3-18 TC TS	278207	44 373	62 810	40	0.68	0.128	0.81	0.014	0.008	0.003	0.003	0.004	0.298	0.020	0.020	0.002	0.030	0.030	0.007	0.0056	
			64 997																		
			74 376																		

CHEMICAL ANALYSIS PERCENT WEIGHT

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

ASTM A53-B-06

WE CERTIFY THE PIPE ABOVE MENTIONED ACCOMPLISH AND HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF SPECIFICATIONS:


 ING. GUANIBO OSORIO PEREZ
 GERENTE DE ASEGURAMIENTO DE CALIDAD
 QUALITY ASSURANCE MANAGER



ELM-405-7
PROCARSA, S.A. DE C.V.

**CERTIFICADO DE CALIDAD
 DE PRUEBAS FISICAS-QUIMICAS**
 QUALITY CERTIFICATE OF TEST PHYSICALS-CHEMICAL

CLIENTE: PLESA ANAHUAC Y CIAS. S.A. DE C.V. NUMERO: PTM-74667-1-2009
 CUSTOMER: PEDIDO CLIENTE / P.O. 2304 FECHA: ABRIL 22, 2009
 PEDIDO INTERNO / I.O. PARTIDA (S) 93259-98 DATE
 ITEMS


DIAMETRO: 2" ESPESOR DE PARED WALL THICKNESS: 0.375" GRADO: ASTM A53-B PRESION HIDROSTATICA: 56 Kg/cm² 790 PSI
 DIAMETER: 2" GRADE: ANALISIS QUIMICO % EN PESO

DESCRIPCION	COLADA MAT	LARGO ELASTICO YIELD STRENGTH (PSI)	ULTIMA TENSION TENSILE STRENGTH (PSI)	% ELONG. % ELONG.	LARGO YIELD	CHEMICAL ANALYSIS PERCENT WEIGHT															
						C	Min	P	S	Cb	V	Ti	Si	Ca	Al	Cr	Ni	Mo	N	Ceq	
12-11 TC TS	179741	53 490	85 396 89 987	39	0.81	0.150	0.81	0.017	0.008	0.003	0.004	0.005	0.300	0.020	0.031	0.002	0.020	0.030	0.009	0.0049	
8-13 TC TS	179742	54 627	88 464 88 708	40	0.79	0.132	0.80	0.014	0.007	0.001	0.003	0.004	0.298	0.020	0.032	0.002	0.020	0.020	0.006	0.0051	

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

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ASTM A53-B-98


 ING. FERNANDO CORTES
 GERENTE DE ASEGURAMIENTO DE CALIDAD
 QUALITY ASSURANCE MANAGER