



FLM-005-7

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.

CUSTOMER:

PEDIDO CLIENTE #P.O.

PARTIDA INTERNO / I.O. 2754

ITEMS

108239-10

NUMERO PTM-76242-2009  
NUMBER

FECHA DICIEMBRE 10, 2009  
DATE

DIAMETRO : 20" ESPESOR DE PARED 0.375" GRADO : API 5L X-42 PSLI PRESION HIDROSTATICA: 1420 PSI 15 Segundos una vez  
DIAMETER : 20" WALL THICKNESS 0.375" GRADE : API 5L X-42 PSLI HYDROSTATIC TEST: 100 Kg/cm<sup>2</sup> 1420 PSI 15 Segundos una vez

PRUEBAS DE TENSION						ANALISIS QUIMICO % EN PESO																
TENSILE TEST						CHEMICAL ANALYSES PERCENT WEIGHT																
NUM.PROBETA	COLADA	LIMITE ELASTICO	ULTIMA TENSION	% ELONG.	LEQT	C	Mn	P	S	Cb	V	Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	Ceq	
DESCRIPTION	HSAT	YIELD STRENGTH (P.S.I.)	TENSILE STRENGTH (P.S.I.)	2"	YS/TS																	
3-7 Tc	196998	49 683	64 478	40	0.77 H	0.132	0.82	0.023	0.005	0.002	0.006	0.004	0.288	0.022	0.030	0.0016	0.016	0.019	0.008	0.0068		
Ts			73 128		P	0.140	0.80	0.017	0.002	0.001	0.005	0.005	0.300	0.029	0.036	0.0030	0.030	0.017	0.003	0.0068		
5-8 Tc	296976	46 893	63 717	41	0.73 H	0.117	0.81	0.015	0.005	0.002	0.003	0.004	0.315	0.040	0.037	0.0021	0.023	0.027	0.009	0.0057		
Ts			72 351		P	0.140	0.79	0.022	0.003	0.001	0.005	0.004	0.280	0.065	0.040	0.0023	0.028	0.023	0.005	0.0057		
4-12 Tc	296978	50 073	67 079	42	0.74 H	0.122	0.80	0.013	0.004	0.002	0.003	0.004	0.302	0.024	0.039	0.0025	0.027	0.022	0.009	0.0059		
Ts			75 378		P	0.130	0.79	0.022	0.003	0.001	0.005	0.004	0.280	0.065	0.041	0.0025	0.028	0.023	0.005	0.0059		
14-2 Tc	297954	49 383	66 218	44	0.74 H	0.126	0.83	0.011	0.006	0.003	0.004	0.005	0.321	0.026	0.034	0.0026	0.020	0.024	0.009	0.0054		
Ts			75 449		P	0.120	0.78	0.015	0.005	0.001	0.003	0.002	0.277	0.027	0.033	0.0044	0.022	0.020	0.004	0.0058		
7-8 Tc	297955	50 048	65 491	40	0.76 H	0.115	0.79	0.014	0.006	0.001	0.004	0.004	0.304	0.021	0.042	0.0031	0.017	0.021	0.004	0.0034		
Ts			71 664		P	0.128	0.77	0.013	0.005	0.001	0.003	0.002	0.281	0.020	0.034	0.0052	0.020	0.018	0.003	0.0052		
9-11 Tc	297956	54 554	70 035	42	0.77 H	0.119	0.77	0.012	0.006	0.001	0.004	0.003	0.271	0.025	0.042	0.0023	0.017	0.021	0.005	0.0051		
Ts			72 178		P	0.128	0.76	0.013	0.005	0.001	0.004	0.003	0.267	0.022	0.031	0.0049	0.020	0.018	0.003	0.0062		

PROCESO DE MANUFACTURA : HFW  
 METODO DE PRUEBA NO DESTRUCTIVO : ULTRASONIDO  
 STANDARD DE REFERENCIA : TALADRO DE 1/8" Y RANURA N10  
 TEMP. MINIMA DE SIMULADO DE NORMALIZADO : 1070 °C  
 MUESTRA PARA PRUEBA DE TENSION : DE ACUERDO A API 5L FIG 5, SUBFIG. B  
 EXTREMOS : BISELADOS  
 Tc : Tension en cuerpo  
 Ts : Tension en soldadura  
 H : Analisis de olla  
 P : Analisis de producto

CERTIFICAMOS QUE LA TUBERIA AQUI 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:

ANSI / ESPECIFICACION API 5L  
44ª EDICION, OCTUBRE 1, 2007  
FECHA EFECTIVA : OCTUBRE 1, 2008

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

FECHA 11 / Dic / 2009  
 FIRMA CÉ000022 Enrique Ruiz