



FLM-005-7

**PROCARSA, S.A. DE C.V.**  
**CERTIFICADO DE CALIDAD**  
**DE PRUEBAS FISICAS-QUIMICAS**

QUALITY CERTIFICATE OF TEST PHYSICALS-CHEMICAL

CLIENTE: **TUCOTA**  
CUSTOMER:  
PEDIDO CLIENTE / P.O. 9157  
PARTIDA(S)  
ITEMS

24495-20 / 32945-40 / 32936-10 / 32537-30  
HIDROSTATICA TEST:  
PRESION HIDROSTATICA: 87 Kg/cm<sup>2</sup>

NUMERO **PTM-52587-2002**  
NUMBER  
FECHA **JULIO 24, 2002**  
DATE

DIAMETRO: **12 3/4"**

ESPESOR DE PARED  
WALL THICKNESS

**0.375"**

GRADO:  
GRADE:

**ASTM A53-B**

ANALISIS QUIMICO % EN PESO  
CHEMICAL ANALYSES PERCENT WEIGHT

87 Kg/cm<sup>2</sup>

1240 PSI

**PRUEBAS DE TENSION**  
**TENSILE TEST**

NUM. PROBEA DESCRIPTION	COLADA HEAT	LIMITE ELASTICO YIELD STRENGTH (P.S.I.)	ULTIMA TENSION TENSILE STRENGTH (P.S.I.)	% ELONG. %	LEANT V.S.T.S	C	Mn	P	S	Cb	V	Ti	Si	Cu	Al	Ca	Ni	Mo	N	Ceq
37-13 TC	12537	52 106	63 784	42	0.82	0.171	0.81	0.011	0.002	-	-	-	0.126	0.053	0.041	0.0022	0.010	0.018	-	-
55-14 TC	23173	59 423	70 163	37	0.81	0.157	0.79	0.010	0.003	-	-	-	0.185	0.015	0.048	0.0016	0.003	0.008	-	-
14-7 TC	121077	55 446	80 314	44	0.84	0.150	0.81	0.019	0.008	-	-	-	0.150	0.013	0.030	0.0004	0.026	0.026	-	-
16-12 TC	121105	53 153	70 926	41	0.84	0.133	0.85	0.015	0.005	-	-	-	0.129	0.012	0.038	0.0005	0.028	0.027	-	-
9-6 TC	121111	53 708	71 215	37	0.84	0.131	0.81	0.017	0.008	-	-	-	0.151	0.015	0.050	0.0002	0.019	0.025	-	-
25-10 TC	121144	54 460	61 902	38	0.88	0.148	0.83	0.019	0.011	-	-	-	0.158	0.016	0.037	0.0004	0.022	0.030	-	-
8-18 TC	221045	57 751	69 491	37	0.81	0.164	1.12	0.025	0.008	-	-	-	0.185	0.011	0.031	0.0040	0.024	0.045	-	-
5-4 TC	221047	52 799	70 876	38	0.77	0.167	1.13	0.017	0.008	-	-	-	0.194	0.012	0.035	0.0032	0.022	0.031	-	-
1-1 TC	221048	53 070	68 287	36	0.76	0.170	1.11	0.014	0.008	-	-	-	0.190	0.012	0.043	0.0022	0.031	0.031	-	-
4-9 TC	221049	58 327	74 447	36	0.84	0.180	1.12	0.016	0.008	-	-	-	0.196	0.014	0.038	0.0032	0.031	0.041	-	-
7-11 TC	221070	53 302	69 454	42	0.83	0.137	0.80	0.016	0.008	-	-	-	0.137	0.014	0.035	0.0004	0.035	0.042	-	-
10-6 TC	221073	52 543	76 924	40	0.81	0.145	0.81	0.019	0.008	-	-	-	0.142	0.013	0.030	0.0004	0.026	0.028	-	-
45-7 TC	221214	52 102	70 749	43	0.80	0.150	0.82	0.012	0.007	-	-	-	0.130	0.015	0.043	0.0002	0.015	0.023	-	-
43-17 TC	221215	55 110	64 878	37	0.84	0.135	0.82	0.012	0.006	-	-	-	0.140	0.013	0.039	0.0002	0.022	0.023	-	-
			72 069																	
			73 698																	

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:

ASTM

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