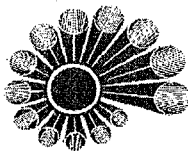


FLM-005-7



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.

PEDIDO INTERNO / I.O. 3885

PARTIDA (S)

ITEMS 112052-10 / 118065-20 / 508556-70 / 75763-10

NUMERO

PTM-01311-201

NUMBER

FECHA

DATE

ENERO 23, 2012

DIAMETRO EXTERIOR :

ESPESOR DE PARED :

GRADO :

PRESION HIDROSTATICA:

OUTSIDE DIAMETER : 12 3/4"

WALL THICKNESS : 0.219"

GRADE : ASTM A53-B

HIDROSTATIC TEST: 51 Kg/cm<sup>2</sup> 720 PSI

## REQUERIMIENTOS DE PRUEBAS DE TENSION / TENSILE TEST REQUIREMENTS

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


LIMITE 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	C
35000 PSI MIN.	60000 PSI MIN.	25 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	---	---	---

NUM.PROBETA DESCRIPTION	COLADA HEAT	LIMITE ELASTICO YIELD STRENGTH (P.S.I.)	ULTIMA TENSION TENSILE STRENGTH (P.S.I.)	% ELONG. 2"	LE/U.T. Y.S/T.S	C	Mn	P	S	Cb	V	Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	CE IIW	C
19-23 Tc Ts	103598	49553	65712 70314	37	0.75	0.129	0.80	0.012	0.008	0.001	0.0020	0.004	0.329	0.023	0.050	0.003	0.017	0.021	0.009	0.0058		
8-25 Tc Ts	111455	44736	61340 64833	40	0.72	0.121	0.78	0.014	0.005	0.003	0.0020	0.003	0.223	0.018	0.034	0.004	0.021	0.022	0.005	0.0065		
8-17 Tc Ts	112492	62643	70731 75382	35	0.88	0.055	0.07	0.017	0.005	0.033	0.0050	0.003	0.168	0.210	0.024	0.003	0.020	0.030	0.005	0.0070		
1-25 Tc Ts	203834	47895	64150 70364	38	0.74	0.131	0.80	0.020	0.004	0.002	0.0030	0.005	0.334	0.021	0.039	0.002	0.020	0.021	0.009	0.0050		
5-17 Tc Ts	203840	51550	66197 70594	40	0.77	0.128	0.77	0.019	0.008	0.002	0.0040	0.004	0.320	0.010	0.043	0.002	0.016	0.017	0.008	0.0051		
9-23 Tc Ts	203842	50455	65157 69559	35	0.75	0.129	0.79	0.015	0.005	0.002	0.0020	0.004	0.343	0.030	0.046	0.003	0.019	0.023	0.009	0.0093		
1-24 Tc Ts	211330	42207	61221 63129	42	0.68	0.102	0.80	0.018	0.006	0.002	0.0030	0.003	0.230	0.029	0.031	0.002	0.018	0.022	0.005	0.0056		
4-13 Tc Ts	211331	44008	61779 62083	42	0.71	0.111	0.78	0.016	0.006	0.002	0.0030	0.003	0.232	0.019	0.036	0.004	0.037	0.025	0.010	0.0059		
9-28 Tc Ts	211332	45238	60457 67231	45	0.74	0.109	0.78	0.017	0.005	0.003	0.0020	0.003	0.230	0.023	0.033	0.003	0.032	0.023	0.010	0.0045		
15-23 Tc Ts	212436	63464	72221 72983	40	0.87	0.064	0.66	0.011	0.003	0.034	0.0020	0.003	0.193	0.250	0.040	0.003	0.020	0.040	0.002	0.0062		
5-29 Tc Ts	212437	59409	70325 76052	37	0.84	0.064	0.65	0.013	0.004	0.034	0.0030	0.003	0.175	0.230	0.035	0.003	0.020	0.020	0.004	0.0071		
4-11 Tc Ts	212440	61680	71948 74335	39	0.85	0.058	0.65	0.011	0.004	0.032	0.0030	0.002	0.196	0.250	0.030	0.003	0.030	0.030	0.006	0.0061		
11-5 Tc Ts	212441	60522	70797 73685	40	0.85	0.057	0.64	0.013	0.005	0.033	0.0030	0.002	0.173	0.220	0.034	0.005	0.020	0.020	0.005	0.0049		
487-8 Tc Ts	266054	58970	70909 74936	30	0.83	0.075	1.16	0.017	0.008	0.023	0.0020	0.008	0.307	0.040	0.045	0.003	0.030	0.030	0.007	0.0054		

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 -06

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. ALEJANDRO ALARCON CAZARES  
 JEFE DE LABORATORIO METALURGICO  
 METALLURGICAL LABORATORY CHIEF