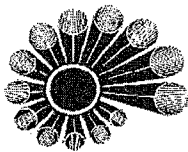


FLM-005-7



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. 15113

PARTIDA (S)

ITEMS 121590-50 / 121848-50

NUMERO

PTM-02210-1-201

NUMBER

FECHA

DATE

JUNIO 26, 2012

DIAMETRO EXTERIOR :

ESPEJOR DE PARED :

GRADO :

PRESION HIDROSTATICA:

OUTSIDE DIAMETER :

12 3/4"

WALL THICKNESS :

0.330"

GRADE :

ASTM A53-B

HIDROSTATIC TEST:

77 Kg/cm<sup>2</sup> 1,090 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.	LE/UT.	C	Mn	P	S	Cb	Cb+V	Cb+V+Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	CE IIW	CE
35000 PSI MIN.	60000 PSI MIN.	27 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/UT Y.S/T.S	C	Mn	P	S	Cb	V	Ti	Si	Cu	Al	Ca	Cr	Ni	Mo	N	CE IIW	CE
2-11 Tc Ts	115085	62 431	71 522 76 939	40	0.87	0.070	1.16	0.017	0.005	0.018	0.0030	0.008	0.252	0.020	0.038	0.003	0.017	0.020	0.008	0.0057		
25-12 Tc Ts	115676	70 402	82 010 88 845	33	0.85	0.102	1.19	0.020	0.003	0.042	0.0030	0.008	0.175	0.022	0.030	0.002	0.027	0.019	0.004	0.0058		
22-4 Tc Ts	115681	71 584	80 069 87 287	34	0.89	0.089	1.11	0.020	0.005	0.044	0.0030	0.009	0.180	0.024	0.034	0.002	0.019	0.021	0.005	0.0056		
16-15 Tc Ts	115719	73 075	81 642 85 342	32	0.89	0.090	1.11	0.017	0.006	0.042	0.0020	0.009	0.177	0.015	0.024	0.004	0.019	0.018	0.005	0.0053		
13-9 Tc Ts	115720	68 212	77 521 86 233	37	0.87	0.091	1.15	0.015	0.004	0.042	0.0020	0.009	0.168	0.014	0.030	0.005	0.016	0.018	0.006	0.0063		
11-4 Tc Ts	115721	70 482	81 827 87 460	35	0.86	0.100	1.16	0.015	0.003	0.044	0.0020	0.010	0.181	0.017	0.028	0.004	0.024	0.020	0.006	0.0053		

CERTIFICAMOS QUE LA TUBERIA AQUÍ DESCRITA CUMPLE Y HA SIDO FABRICADA, MUÉSTREADA, 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. ALEJANDRO ALARCÓN-CAZARES  
 JEFE DE LABORATORIO METALURGICO  
 METALLURGICAL LABORATORY CHIEF