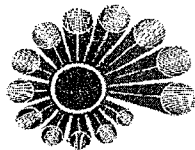


FLM-005-7



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:

NUMERO

PTM-001469-2012

NUMBER

PEDIDO CLIENTE / P.O.

PEDIDO INTERNO / I.O.

3983

FECHA

DATE

FEBRERO 24, 2012

PARTIDA (S)

ITEMS

118065-80

DIAMETRO EXTERIOR :

ESPESOR DE PARED :

GRADO :

PRESION HIDROSTATICA:

OUTSIDE DIAMETER : 20"

WALL THICKNESS : 0.250"

GRADE : ASTM A53-B

HYDROSTATIC TEST: 37 Kg/cm² 530 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

CE

35000 PSI MIN.

60000 PSI MIN.

26 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
11-4 Tc Ts	111175	43 042	62 629 66 290	44	0.68	0.114	0.78	0.016	0.005	0.004	0.0020	0.006	0.240	0.029	0.048	0.002	0.025	0.021	0.011	0.0054		
16-16 Tc Ts	111179	50 382	66 647 67 672	35	0.75	0.113	0.78	0.018	0.007	0.002	0.0040	0.004	0.219	0.030	0.040	0.003	0.023	0.020	0.005	0.0042		
1-4 Tc Ts	111180	43 855	62 777 66 256	44	0.69	0.108	0.79	0.018	0.005	0.004	0.0030	0.004	0.225	0.026	0.035	0.003	0.024	0.020	0.014	0.0048		

CERTIFICAMOS QUE LA TUBERIA AQUÍ DESCRITA CUMPLE Y HA SIDO FABRICADA, MUESTREADA, PROBADA E INSPECCIONADA DE ACUERDO CON LOS REQUISITOS APPLICABLES 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