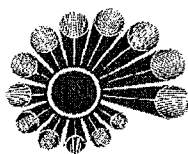


FLM-005-7



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-02213-1-2012

NUMBER

PEDIDO CLIENTE / P.O.

PEDIDO INTERNO / I.O.

15113

FECHA

DATE

JUNIO 23, 2012

PARTIDA (S)

ITEMS

121848-50

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/cm²

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.	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 IIW
35000 PSI MIN.	60000 PSI MIN.	28 min.	---	0.220 max	1.200 max	0.025 max	0.015 max	0.050 max	---	---	---	0.500 max	---	---	0.300 max	0.300 max	0.150 max	---	0.43 max	0.2

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 IIW
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		
21-12 Tc Ts	115682	68 673	80 431 86 335	33	0.85	0.070	1.14	0.020	0.008	0.040	0.0030	0.007	0.170	0.025	0.040	0.002	0.019	0.022	0.005	0.0056		
23-19 Tc Ts	115718	75 278	83 534 92 095	35	0.90	0.078	1.19	0.017	0.005	0.044	0.0020	0.010	0.177	0.021	0.031	0.003	0.017	0.020	0.007	0.0058		
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		
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, MUESTREADA, 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 ALARCON CAZARES
JEFE DE LABORATORIO METALURGICO
METALLURGICAL LABORATORY CHIEF