

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
NUMBER

PTM-04087-1-2014

PEDIDO CLIENTE / P.O.

PEDIDO INTERNO / I.O.

15737

FECHA

DATE

FEBRERO 20, 2014

ITEMS

118065-80

| | | | | | | | | | | | | | | | | | | | | |
|--|-----------------------------------|--------------------------------------|-----------|---|------------|--|-----------------------|---------|------|---------|-----|-----------|-----|-----|-----------|-----------|-----------|-----|--------|--------|
| DIAMETRO EXTERIOR: OUTSIDE DIAMETER: | 20" | ESPESOR DE PARED: WALL THICKNESS: | 0.250" | GRADO: GRADE: | ASTM A53-B | PRESION HIDROSTATICA: HIDROSTATIC TEST: | 37 Kg/cm ² | 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 Pem |
| 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" | L.E./U.T. Y.S./T.S. | C | Mn | P | S | Cb | V | Ti | Si | Cu | Al | Ca | Cr | Ni | Mo | N | CE IIW | CE Pem |
|-----------------------------|----------------|---|--|----------------|------------------------|-------|------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 16-16 Tc Ts | 111179 | 50 382 | 66 647 67 672 | 35 | 0.75 | 0.113 | 0.78 | 0.018 | 0.007 | 0.002 | 0.004 | 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 | 0.003 | 0.004 | 0.225 | 0.026 | 0.035 | 0.003 | 0.024 | 0.020 | 0.014 | 0.0048 | | |
| 10-11 Tc Ts | 211056 | 45 518 | 64 224 67 235 | 42 | 0.70 | 0.108 | 0.79 | 0.014 | 0.006 | 0.003 | 0.0030 | 0.005 | 0.225 | 0.041 | 0.038 | 0.003 | 0.023 | 0.022 | 0.016 | 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