



PROCARSA, S.A. DE C.V.

**CERTIFICADO DE CALIDAD  
DE PRUEBAS FISICAS-QUIMICAS**

QUALITY CERTIFICATE OF TEST PHYSICALS-CHEMICAL

CLIENTE: TUCOTA

CUSTOMER:

PEDIDO CLIENTE / P.O. 9157

PARTIDA (S)

32945-30 / 32537-20

NUMERO PTM-52547-2002  
FECHA JULIO 19, 2002  
DATE

DIAMETRO: 12 3/4"

ESPESOR DE PARED  
WALL THICKNESS

0.250"

GRADO:  
GRADE:

ASTM A53-B

PRISION HIDROSTATICA:  
HYDROSTATIC TEST:

58 Kg/cm<sup>2</sup>

820 PSI

PRUEBAS DE TENSION  
TENSILE TEST

CHEMICAL ANALYSES PERCENT WEIGHT

| MEASUREMENT<br>DESCRIPCION | UNITS<br>UNITS | LABOR PLANT<br>LABOR PLANT | TEST<br>TEST | RESULTS<br>RESULTS | % TOLERANCE<br>% TOLERANCE | GRADE<br>GRADE | C     | Mn   | P     | S     | Cb | V | Ti | SI    | Cu    | Al    | Ca     | NI    | Mo    | N | Ceq |
|----------------------------|----------------|----------------------------|--------------|--------------------|----------------------------|----------------|-------|------|-------|-------|----|---|----|-------|-------|-------|--------|-------|-------|---|-----|
| 3-11 TC                    | TC             | 120145                     | 50 772       | 66 806             | 41                         | 0.76           | 0.142 | 0.93 | 0.017 | 0.005 | -  | - | -  | 0.153 | 0.018 | 0.042 | 0.0032 | 0.023 | 0.028 | - | -   |
| 25-8 TC                    | TC             | 121106                     | 49 852       | 71 899             | 40                         | 0.76           | 0.152 | 0.84 | 0.017 | 0.006 | -  | - | -  | 0.116 | 0.011 | 0.027 | 0.0015 | 0.021 | 0.023 | - | -   |
| 21-15 TC                   | TC             | 121107                     | 53 425       | 67 825             | 41                         | 0.85           | 0.132 | 0.81 | 0.013 | 0.007 | -  | - | -  | 0.141 | 0.010 | 0.040 | 0.0005 | 0.016 | 0.032 | - | -   |
| 30-12 TC                   | TC             | 121108                     | 53 561       | 69 899             | 37                         | 0.81           | 0.144 | 0.79 | 0.021 | 0.010 | -  | - | -  | 0.133 | 0.015 | 0.034 | 0.0005 | 0.022 | 0.032 | - | -   |
| 10-1 TC                    | TC             | 221050                     | 48 954       | 72 106             | 36                         | 0.72           | 0.170 | 1.11 | 0.014 | 0.008 | -  | - | -  | 0.213 | 0.015 | 0.045 | 0.0024 | 0.031 | 0.036 | - | -   |
| 13-5 TC                    | TC             | 221051                     | 48 073       | 72 111             | 37                         | 0.65           | 0.161 | 1.14 | 0.017 | 0.008 | -  | - | -  | 0.196 | 0.015 | 0.038 | 0.0036 | 0.035 | 0.031 | - | -   |
| 6-1 TC                     | TC             | 221052                     | 49 496       | 75 148             | 35                         | 0.72           | 0.164 | 1.10 | 0.018 | 0.008 | -  | - | -  | 0.220 | 0.017 | 0.043 | 0.0035 | 0.033 | 0.028 | - | -   |
| 19-8 TC                    | TC             | 221072                     | 53 889       | 68 745             | 35                         | 0.84           | 0.137 | 0.81 | 0.017 | 0.010 | -  | - | -  | 0.159 | 0.021 | 0.043 | 0.0003 | 0.025 | 0.029 | - | -   |
| 12-14 TC                   | TC             | 221073                     | 52 881       | 73 057             | 40                         | 0.80           | 0.145 | 0.81 | 0.019 | 0.008 | -  | - | -  | 0.142 | 0.013 | 0.030 | 0.0004 | 0.026 | 0.028 | - | -   |
| 12-14 TC                   | TC             | 221073                     | 52 881       | 70 382             | 40                         | 0.80           | 0.145 | 0.81 | 0.019 | 0.008 | -  | - | -  | 0.142 | 0.013 | 0.030 | 0.0004 | 0.026 | 0.028 | - | -   |
| 12-14 TC                   | TC             | 221073                     | 52 881       | 73 435             | 40                         | 0.80           | 0.145 | 0.81 | 0.019 | 0.008 | -  | - | -  | 0.142 | 0.013 | 0.030 | 0.0004 | 0.026 | 0.028 | - | -   |

CERTIFICAMOS QUE LA TUBERIA AQUI DESCRITA CUMPLE Y HA SIDO FABRICADA, MUESTREADA, PROBADA E INSPECCIONADA DE ACUERDO CON LOS REQUISITOS APLICABLES DE LA ESPECIFICACION:

WE CERTIFY THE PIPE ABOVE MENTIONED ACCOMPLISH AND HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF SPECIFICATIONS:

ASTM

ING. FERNANDO OSORIO PEREZ  
GERENTE DE ASEGURAMIENTO DE CALIDAD  
QUALITY ASSURANCE MANAGER