



PROCARSA, S.A. DE C.V.

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

QUALITY CERTIFICATE OF TEST PHYSICALS-CHEMICAL

380630

DIAMETRO: 16" ESPESOR DE PARED: 0.250" GRADO: ASTM A53-B

WALL THICKNESS

GRADE:

ASTM A53-B

ANALISIS QUIMICO % EN PESO

46 Kg/cm²

660 PSI

CHEMICAL ANALYSES PERCENT WEIGHT

| NUM/PROBETA DESCRIPTION | COLADA HEAT | LIMITE ELASTICO YIELD STRENGTH (Q ₂₁₁) | ULTIMA TENSION TENSILE STRENGTH (Q ₂₁₁) | % ELONG. E ₂ | LEBLT V ₂₇₅ | C | Mn | P | S | Cb | V | TI | Si | Cu | Al | Ca | Cr | Ni | Mo | N | Ceq |
|----------------------------|----------------|--|---|----------------------------|---------------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|--------|-----|
| 12-13 TC TS | 126661 | 56 046 | 70 734 75 169 | 36 | 0.78 | 0.160 | 1.09 | 0.017 | 0.004 | 0.002 | 0.004 | 0.003 | 0.185 | 0.017 | 0.031 | 0.0025 | 0.018 | 0.022 | 0.010 | 0.0047 | |
| 3-14B TC TS | 130670 | 53 203 | 69 846 75 040 | 34 | 0.76 | 0.162 | 1.09 | 0.014 | 0.006 | 0.003 | 0.003 | 0.004 | 0.202 | 0.013 | 0.045 | 0.0029 | 0.016 | 0.022 | 0.014 | 0.0064 | |
| 6-16B TC TS | 130671 | 53 346 | 70 033 77 560 | 37 | 0.76 | 0.164 | 1.11 | 0.013 | 0.007 | 0.001 | 0.002 | 0.003 | 0.229 | 0.022 | 0.043 | 0.0033 | 0.017 | 0.032 | 0.004 | 0.0064 | |
| 7-2 TC TS | 131401 | 51 721 | 72 137 79 529 | 36 | 0.72 | 0.174 | 1.10 | 0.015 | 0.007 | 0.001 | 0.002 | 0.003 | 0.197 | 0.024 | 0.034 | 0.0031 | 0.015 | 0.027 | 0.003 | 0.0029 | |
| 4-2B TC TS | 131402 | 57 801 | 70 167 75 489 | 34 | 0.82 | 0.172 | 1.15 | 0.012 | 0.008 | 0.001 | 0.002 | 0.002 | 0.172 | 0.022 | 0.038 | 0.0032 | 0.011 | 0.024 | 0.002 | 0.0049 | |
| 6-13 TC TS | 132908 | 43 968 | 65 286 68 882 | 35 | 0.67 | 0.167 | 1.12 | 0.024 | 0.008 | 0.001 | 0.005 | 0.004 | 0.213 | 0.022 | 0.026 | 0.0030 | 0.015 | 0.040 | 0.014 | 0.0058 | |
| 17-10 TC TS | 132911 | 47 752 | 67 671 73 729 | 36 | 0.71 | 0.163 | 1.05 | 0.017 | 0.007 | 0.001 | 0.003 | 0.003 | 0.193 | 0.016 | 0.035 | 0.0020 | 0.019 | 0.022 | 0.004 | 0.0043 | |
| 20-2 TC TS | 227097 | 50 911 | 70 427 76 240 | 38 | 0.72 | 0.178 | 1.07 | 0.013 | 0.006 | 0.001 | 0.002 | 0.002 | 0.199 | 0.012 | 0.031 | 0.0022 | 0.010 | 0.020 | 0.003 | 0.0083 | |

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 A53-B-98

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

CLIENTE: TUCOTA
CUSTOMER: TUCOTA

PEDIDO CLIENTE / P.O. 11077
PARTIDA (S) 40230-10 / 43755-20 / 45635-10

PESION HIDROSTATICA: 46 Kg/cm²

HIDROSTATIC TEST: 660 PSI

NUMERO PTM-56193-2003
FECHA DATE SEPTIEMBRE 29, 2003