



Ave. Guerrero
No. 3725 nte.
Col. Del Norte
Monterrey, N.L. Mexico
Tel: 3635555
Tel: 3635555
Fax: 3635550

CERTIFICADO DE TUBERIA

PIPE CERTIFICATE

080380

| | | | | | | | | | | |
|------------------------------|--|----------------------------------|----------------------------------|--|-----------------------------|------------------------------|--|---|----------------------------------|-------------------------------|
| O.T. (order no.) 33448 | DIAMETRO (outside diam.) 14.000" | ESPESOR (thickness) 0.250" | GRADO (grade) X42/5L/BA53B | ESPECIFICACION (specification) API SL 43 ED/A.S.T.M. | PROCESO (process) ERW | PEDIDO (contract) 4551 | CLIENTE(customer): PLESA ANAHUAC Y CIA. S.A. DE C.V. DIRECCION(address): TULITLAN, EDO. DE MEXICO | AV VALLE DE LAS ALAMEDAS # 66-0 COL. SAN FCO. CHILPAN C.P. 54940 | PROVEEDOR (supplier) AHMSA | FECHA (date) 19/05/2008 |
|------------------------------|--|----------------------------------|----------------------------------|--|-----------------------------|------------------------------|--|---|----------------------------------|-------------------------------|

| TUBO (PIPE) SERIE (SERIAL) | COQUETA (heat) | T P O E | L O C | PRUEBA DE TENSION (tensile test) | | | BEND | HARDNESS | PRUEBA DE IMPACTO (impact test) | | | DWT | GRAN SIZE | (%ANALISIS QUIMICO / chemical analysis (%)) | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|-------------------|------------------|-------------|--|---|---|------|----------|---|---|---------------------------|-----|-----------|---|-----|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|----|----|----|----|----|---|-------|-------|-------|------|------|
| | | | | RESISTENCIA (tensile strength) PSI (Y.S.) | ELONGACION (elongation) % (E.S.) | REDUCCION DE AREA (reduction of area) % (R.A.) | | | TEMPERATURA (temperature) °F (F) | TEMPERATURA (temperature) °C (C) | ENERGY (joules) (J) | | | AVG | AVG | AVG | 1 | 2 | 3 | 1 | 2 | 3 | C | Mn | P | S | SI | Al | Cu | Cr | Ni | Mo | Ti | Nb | B | V | N | As | Ca | PCM |
| 277 | 273503 | H | 7 | 6 | 48700 | 64200 | 42 | 0.75 | 74000 | | | | | H | 7 | 0.15 | 0.58 | 0.013 | 0.005 | 0.139 | 0.036 | 0.020 | 0.030 | 0.030 | 0.001 | - | - | - | - | - | - | - | - | - | - | 0.002 | 0.23 | 0.30 | | |
| | | H | 7 | 6 | 48700 | 64200 | 42 | 0.75 | 74000 | | | | | P | 7 | 0.20 | 0.59 | 0.014 | 0.006 | 0.151 | 0.044 | 0.008 | 0.023 | 0.025 | 0.001 | 0.002 | 0.001 | - | - | - | - | - | - | - | - | - | 0.002 | 0.23 | 0.30 | |
| | | H | 7 | 6 | 48700 | 64200 | 42 | 0.75 | 74000 | | | | | P | 7 | 0.18 | 0.58 | 0.014 | 0.007 | 0.155 | 0.041 | 0.015 | 0.022 | 0.025 | 0.001 | 0.001 | 0.002 | 0.001 | - | - | - | - | - | - | - | - | - | 0.002 | 0.21 | 0.28 |
| | | H | 7 | 6 | 48700 | 64200 | 42 | 0.75 | 74000 | | | | | H | 7 | 0.15 | 0.60 | 0.011 | 0.006 | 0.128 | 0.043 | 0.020 | 0.020 | 0.030 | 0.004 | - | - | - | - | - | - | - | - | - | - | - | - | 0.002 | 0.21 | 0.25 |
| | | H | 7 | 6 | 48700 | 64200 | 42 | 0.75 | 74000 | | | | | P | 7 | 0.18 | 0.59 | 0.010 | 0.008 | 0.140 | 0.045 | 0.008 | 0.011 | 0.024 | 0.001 | 0.002 | 0.001 | 0.0002 | 0.001 | - | - | - | - | - | - | - | - | 0.002 | 0.22 | 0.29 |
| | | H | 7 | 6 | 48700 | 64200 | 42 | 0.75 | 74000 | | | | | P | 7 | 0.17 | 0.59 | 0.011 | 0.006 | 0.139 | 0.046 | 0.008 | 0.011 | 0.025 | 0.001 | 0.002 | 0.001 | 0.0002 | 0.001 | - | - | - | - | - | - | - | - | 0.002 | 0.21 | 0.27 |

| | | | | | | | | |
|---|---|-------------|----|-------------------|----|-----|--|---|
| PRUEBA HIDROSTATICA (hydrostatic test) | PRESSION (pressure) | 1280 | Pa | TIEMPO: (time) | 10 | SEC | ORIENTACION(orientation): 1. TRANSVERSAL (transverse) 2. LONGITUDINAL (longitudinal) 3. TAMANO (size) 4. RECTANGULAR (rectangular) 5. CILINDRICA (round bar) 0.500" 6. LOCALIZACION (location) | 6. SOLDADURA (weld) 7. METAL BASE (base metal) 8. ZONA AFECTADA (a.z.) 9. LINEA DE FUSION (fusion line) 10. TIPO DE PRUEBA (type) H. COLADA (heat) P. PRODUCTO (product) R. REMUESTRO (reheat) |
| ULTRASONIDO(U.T.) (ultrasonic) | STANDARO DE REFERENCIA REFERENCE STANDARD | J | | | | | | |
| RAYOS X (RT) (x-ray) | PENETROMETRO (penetrometer) | N/A | | | | | | |
| NORMALIZADO DE SOLDADURA (heat treatment weld) | TEMPERATURA (temperature) | 1600° F MIN | | | | | | |
| REFERENCE STANDARD SUL MATCH N.S. J U.T. MATCH N.101. RT HOLE V.M.F. N. RT HOLE Z.2710. RT HOLE Z.4F | F U.T. DRILLED HOLE 1/8" G U.T. DRILLED HOLE 1/8" | | | | | | | |

CERTIFICAMOS QUE EL MATERIAL DESCRITO HA SIDO HECHO DE ACUERDO CON LA ESPECIFICACION MENCIONADA, Y QUE LOS RESULTADOS SON COMO APARECEN EN ESTOS RESULTADOS DE LA COMPARACION.
 WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HAS BEEN MADE IN ACCORDANCE WITH THE SPECIFICATION MENTIONED AND THAT THESE TEST RESULTS ARE AS THEY APPEAR IN THESE TEST REPORTS.
 TUBACERO, S.A. DE C.V.
 CONTROL DE CALIDAD
 04
 Control de Calidad (Quality Control)