



Ave Guerrero
No. 3733 Intero
Col. Del Norte
MEXICO, D.F. Mexico
CP 04500
TEL: 30355555
FAX: 30355580

CERTIFICADO DE TUBERIA

PIPE CERTIFICATE

| | | | | | | | | | | |
|---------------------|--|----------------------------------|----------------------------------|--|-----------------------------|------------------------------|--|---|----------------------------------|-------------------------------|
| Order no.) 33457 | DIAMETRO (outside diam.) 12.750" | ESPESOR (thickness) 0.250" | GRADO (grade) X42/SLB/A53B | ESPECIFICACION (specification) API SL 43 ED / A.S.T.M. | PROCESO (process) ERW | PEDIDO (contract) 4378 | CLIENTE(customer): PLESA ANAHUAC Y CIA S. SA. DE C.V. | PREPARACION (preparation order) TB-061-2008 | PROVEEDOR (supplier) AHMSA | FECHA (date) 05/04/2008 |
|---------------------|--|----------------------------------|----------------------------------|--|-----------------------------|------------------------------|--|---|----------------------------------|-------------------------------|

| | |
|-------------------------------------|--|
| No. CERTIFICADO(certification No.): | 080281 |
| DIRECCION(address): | AV VALLE DE LAS ALAMEDAS #66 O COL SAN FCO. CHILPAN TULITLAN, EDO. DE MEXICO, C.P. 54940 |

| TUBO (PIPE) SERIE (SERIAL) | COLADA (HEAT) | T P O E | L P O E | UNIDADES (units) | ORIENTACION (orientation) | TAMANO (size) | % EL. VITA | BEND | HARDNESS | PRUEBA DE IMPACTO (Impact Test) | | | DWT | | | GRAN SIZE | %ANALISIS QUIMICO / chemical analysis (%) | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|------------------|------------------|------------------|---------------------|------------------------------|------------------|------------|------|----------|---------------------------------|----------------|-----|------------------|------------|------------|-----------|---|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|----|----|----|---|---|-------|------|-------|-------|-------|------|------|
| | | | | | | | | | | TEMPERATURA (°F) | ENERGY (ft-lb) | AVG | TAMANO (size) | SHEAR AREA | SHEAR AREA | | 1 | 2 | AVG | 1 | 2 | AVG | C | Mn | P | S | Si | Al | Cu | Cr | Ni | Mo | Ti | Nb | B | V | N | AIS | Ca | PCM | CE | | |
| 12 | 175068 | H | 7 | 6 | PSI | 71900 | | | | 1 | 2 | 3 | 1 | 2 | 3 | H | 7 | 0.16 | 0.58 | 0.018 | 0.006 | 0.101 | 0.020 | 0.010 | 0.020 | 0.020 | 0.004 | - | - | - | - | - | - | - | - | - | 0.002 | 0.22 | 0.28 | | | | |
| | | | | | | 67600 | | | | | | | | | | P | 7 | 0.18 | 0.58 | 0.021 | 0.008 | 0.118 | 0.030 | 0.005 | 0.014 | 0.022 | 0.001 | 0.002 | 0.002 | 0.0002 | 0.002 | - | - | - | - | - | - | - | 0.002 | 0.22 | 0.28 | | |
| | | | | | | 74000 | | | | | | | | | | P | 7 | 0.18 | 0.58 | 0.024 | 0.007 | 0.116 | 0.031 | 0.008 | 0.014 | 0.021 | 0.001 | 0.002 | 0.002 | 0.0003 | 0.002 | - | - | - | - | - | - | - | - | 0.003 | 0.22 | 0.28 | |
| 48 | 175066 | H | 7 | 6 | PSI | 49800 | | | | | | | | | | H | 7 | 0.15 | 0.58 | 0.019 | 0.008 | 0.100 | 0.034 | 0.020 | 0.020 | 0.020 | 0.005 | - | - | - | - | - | - | - | - | - | - | - | 0.002 | 0.23 | 0.30 | | |
| | | | | | | 68400 | | | | | | | | | | P | 7 | 0.20 | 0.57 | 0.022 | 0.011 | 0.118 | 0.043 | 0.013 | 0.025 | 0.023 | 0.001 | 0.002 | 0.002 | 0.0003 | 0.002 | - | - | - | - | - | - | - | - | - | 0.002 | 0.23 | 0.30 |
| | | | | | | 62900 | | | | | | | | | | H | 7 | 0.15 | 0.59 | 0.020 | 0.007 | 0.065 | 0.024 | 0.020 | 0.020 | 0.020 | 0.003 | - | - | - | - | - | - | - | - | - | - | - | 0.001 | 0.25 | 0.31 | | |
| 201 | 274958 | H | 7 | 6 | PSI | 48600 | | | | | | | | | | P | 7 | 0.21 | 0.59 | 0.025 | 0.008 | 0.087 | 0.049 | 0.014 | 0.009 | 0.022 | 0.001 | 0.002 | 0.002 | 0.0002 | 0.003 | - | - | - | - | - | - | - | - | - | 0.001 | 0.25 | 0.31 |
| | | | | | | 74000 | | | | | | | | | | P | 7 | 0.19 | 0.58 | 0.018 | 0.012 | 0.093 | 0.042 | 0.018 | 0.009 | 0.023 | 0.001 | 0.002 | 0.002 | 0.0003 | 0.003 | - | - | - | - | - | - | - | - | - | 0.003 | 0.22 | 0.26 |
| | | | | | | 63100 | | | | | | | | | | H | 7 | 0.15 | 0.58 | 0.022 | 0.008 | 0.098 | 0.024 | 0.030 | 0.020 | 0.020 | 0.005 | - | - | - | - | - | - | - | - | - | - | - | - | 0.003 | 0.22 | 0.26 | |
| 233 | 175069 | H | 7 | 6 | PSI | 47800 | | | | | | | | | | P | 7 | 0.19 | 0.58 | 0.024 | 0.012 | 0.120 | 0.041 | 0.022 | 0.017 | 0.025 | 0.001 | 0.002 | 0.002 | 0.0004 | 0.003 | - | - | - | - | - | - | - | - | - | 0.003 | 0.23 | 0.29 |
| | | | | | | 63100 | | | | | | | | | | P | 7 | 0.20 | 0.57 | 0.025 | 0.014 | 0.115 | 0.034 | 0.022 | 0.017 | 0.024 | 0.001 | 0.002 | 0.002 | 0.0004 | 0.003 | - | - | - | - | - | - | - | - | - | 0.003 | 0.23 | 0.30 |

| | | | | | | |
|---|--|----------|------------------|--------|--|---|
| PRUEBA HIDROSTATICA (Hydrostatic Test) | PRESION (pressure) | 1400 Psi | TIEMPO (time) | 10 sec | ORIENTACION(orientation): 1. TRANSVERSAL (transverse) 2. LONGITUDINAL (longitudinal) TAMANO (size) 3. RECTANGULAR(rectangular) 4. CILINDRICA(round bar) 0.50" 5. LOCALIZACION (location) | 6. SOLDADURA (weld) 7. METAL BASE (base metal) 8. ZONA AFECTADA (h.a.z) 9. LINEA DE FUSION (fusion line) TIPO DE PRUEBA (type) H. COLADA (heat) P. PRODUCTO (product) R. REMUESTRO (recheck) |
| ULTRASONIDO(U.T.) (ultrasonic) | STANDARD DE REFERENCIA REFERENCIE STANDARD | J | | | | |
| RAYOS-X (RT) (x-ray) | PENETROMETRO (penetrometer): TEMPERATURA (temperature): | N/A | | | | |
| NORMALIZADO DE SOLDADURA (heat treatment weld) | F. U.T. DRILLED HOLE 1/16" G. U.T. DRILLED HOLE 1/8" U.T. NOTCH N.5. U.T. NOTCH N.10. U.T. HOLE 1/16" N. RT HOLE 2.21 O. RT HOLE 2.41 | | | | | |

CERTIFICAMOS QUE EL MATERIAL DESCRITO HA SIDO HECHO DE ACUERDO CON LA ESPECIFICACION MENCIONADA Y QUE LOS RESULTADOS QUIMICOS APARECEN EN NUESTROS REGISTROS DE LA COMPAÑIA. APARECEN EN NUESTROS REGISTROS DE LA COMPAÑIA. (WE HEREBY CERTIFY THAT MATERIAL DESCRIBED IN ACCORDANCE WITH THE SPECIFICATION MENTIONED AND THAT CHEMICAL TEST RESULTS ARE IN OUR COMPANY'S RECORDS.)

Control de Calidad (Quality Control)

TUBACERO, S.A. DE C.V.

04