18"C-80

Tubacero

Prol. Guerrero No. 3748 Int. Col. Del Norte Monterrey N.L. México CP. 64500 Tel. 1490 4444

# CONSTANCIA DE INSPECCION

INSPECTION CONSTANCY

No. CONSTANCIA (constancy No.): 131243

CLIENTE(customer): PLESA ANAHUAC Y CIAS., S.A. DE C.V.

DIRECCION(address): AV. VALLE DE LAS ALAMEDAS # 66-D COL. SAN FCO. CHILPAN TULTITLAN, EDO. DE MEXICO C.P. 54940

| O.T. (order no.) | DIAMETRO (outside diam.) | ESPESOR (thickness) | GRADO (grade) | ESPECIFICACION (specification) | PROCESO (process) | PEDIDO (contract) | O. PREPARACION (preparation order) | PROVEEDOR (supplier) | FECHA (date) |
|---|---|---|---|---|---|---|---|---|---|
| 23209 | 18.000" | 0.500" | X42/ B PSL1/A53B | API SPEC 5L 44TH ED/A.S.T.M. | SAWL | 15942 | TB-115-2013 | TERNIUM | 05/07/2013 |

NACE MR 0175

| TUBO (pipe) O SERIE (SERIAL) | COLADA (heat) | TYPE | LOC | PRUEBA DE TENSION (tensile test) UNIDAD (unit) Psi (Y.S.) | ORIENTACION (orientation) 1 (T.S.) | TAMAÑO (size) 3 % EL. | Y.R/T.S. | GRIND. | HARDNESS HRB | PRUEBA DE IMPACTO (impact test) *C ORIENTACION *F (orientation) TAMAÑO (size) ENERGY (J) 1 | 2 | 3 | AVG | SHEAR AREA 1 | 2 | 3 | AVG | DWTT SHEAR AREA 1 | 2 | AVG | GRAIN SIZE | TYPE | LOC | ANALISIS CLINICO (chemical analysis) % C | Mn | P | S | Si | Al | Cu | Cr | Ni | Mo | Ti | Nb | B | V | N | As | Ca | PCM | CE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6 | | 68700 | | | | | | | | | | | | | | | | | H | 7 | 0.17 | 0.70 | 0.010 | 0.005 | 0.150 | 0.038 | 0.008 | 0.013 | 0.007 | 0.001 | 0.000 | 0.000 | - | 0.001 | 0.003 | - | - | - | - |
| 33 | 0930864 | T | 7 | 52000 | 63100 | 42 | 0.82 | | 80 | | | | | | | | | | | | | P | 7 | 0.11 | 0.73 | 0.012 | 0.005 | 0.157 | 0.050 | 0.013 | 0.008 | 0.011 | 0.001 | 0.002 | 0.000 | 0.0001 | 0.001 | - | - | 0.003 | 0.16 | 0.24 |
| | | | | | | | | | | | | | | | | | | | | | | P | 7 | 0.12 | 0.73 | 0.012 | 0.007 | 0.161 | 0.051 | 0.007 | 0.008 | 0.011 | 0.001 | 0.001 | 0.000 | 0.0001 | 0.001 | - | - | 0.005 | 0.16 | 0.24 |
| | | | 6 | | 74700 | | | | | | | | | | | | | | | | | H | 7 | 0.16 | 0.67 | 0.009 | 0.001 | 0.145 | 0.036 | 0.029 | 0.026 | 0.017 | 0.004 | 0.001 | 0.000 | - | 0.001 | 0.004 | - | - | - | - |
| 64 | 813485 | T | 7 | 50800 | 64900 | 44 | 0.78 | | 92 | | | | | | | | | | | | | P | 7 | 0.12 | 0.72 | 0.011 | 0.002 | 0.149 | 0.045 | 0.030 | 0.022 | 0.020 | 0.001 | 0.002 | 0.007 | 0.0002 | 0.001 | - | - | 0.002 | 0.16 | 0.24 |
| | | | | | | | | | | | | | | | | | | | | | | P | 7 | 0.13 | 0.70 | 0.011 | 0.002 | 0.154 | 0.045 | 0.033 | 0.022 | 0.020 | 0.001 | 0.001 | 0.005 | 0.0002 | 0.001 | - | - | 0.002 | 0.17 | 0.25 |
| 37 | 0930864 | | 8 | | | | | OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 72 | RA980245 | | 6 | | | | | OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CRITERIOS DE ACEPTACION: | MIN: | | | 42100 | 60200 | 26 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| (Aceptando criteri) | MAX: | | | - | - | - | - | - | 100 | - | - | - | - | - | - | - | - | - | - | - | - | | | 0.26 | 1.20 | 0.030 | 0.030 | - | - | 0.500 | 0.400 | 0.400 | 0.150 | - | - | - | 0.080 | - | - | - | - | - |
| | PROMEDIO (AVG.) | | | - | - | - | *No se Aceptan Grietas >1/8" | | | | | | | | | | | | | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

PRUEBA HIDROSTATICA (hidrostatic test): PRESION (pressure): 1990 Psi TIEMPO (time): 5 seg

ULTRASONIDO (U.T.): (ultrasonic) STANDARD DE REFERENCIA: F REFERENCE STANDARD

RAYOS-X (RT): (x-ray) PENETROMETRO (penetrometer): 10-ISO-16

NORMALIZADO DE SOLDADURA: (heat treatment weld) TEMPERATURA (temperature): N/A

ESTANDAR DE REFERENCIA (REFERENCE STANDARD): F: U.T. DRILLED HOLE 1/16", G: U.T. DRILLED HOLE 1/8", I: U.T. NOTCH N-5, J: U.T. NOTCH N-10 L: RT HOLE 1/16", N. RT HOLE 2-0T O: RT HOLE 2-4T Barreno (Drilled Hole)=H Muesca (Notch)=N

ORIENTACION (orientation): 1. TRANSVERSAL (transverse) 2. LONGITUDINAL (longitudinal)

TAMAÑO (size): 3.RECTANGULAR (rectangular) 4.CILINDRICA (round bar) 0.500" 5.CILINDRICA (round bar) 0.350"

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: REMUESTREO (recheck)

T: UNIDAD DE PRUEBA (Test unit)

HACEMOS CONSTAR QUE EL MATERIAL DESCRITO HA SIDO FABRICADO, MUESTREADO, PROBADO E INSPECCIONADO DE CUERDO CON LA ESPECIFICACION MENCIONADA, Y QUE LOS RESULTADOS SON COMO APARECEN EN LOS REGISTROS DE LA COMPAÑIA.
(WE HEREBY VERIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE SPECIFICATION MENTIONED AND THAT THESE TEST RESULT ARE AS THEY APPER IN RECORDS OF THE COMPANY)

TUBACERO, S. DE R.L. DE C.V.

Control de Calidad (Quality Control)
Ing. Samuel Montoya Laguna.

REV. 6 Mayo.-13

F-TUME-013