



# MAQUINADOS DE ACEROS FORJADOS

CALLE SIN NOMBRE ESQ. RIO HUAYAPANGO MZ. 2 LOTE 55 COLONIA EJIDO DEL SOCORRO  
CUAUTITLAN IZCALLI EDO DE MEX, CP. 54740

TEL 5870-5003 Y 5870 8406 NEXTEL : 3538-5524 Email: mary.barrera@macerosforjados.com.mx E-mail: macerosforjados@hotmail.com

|                        |                               |                             |               |
|------------------------|-------------------------------|-----------------------------|---------------|
| CERTIFICADO DE CALIDAD |                               | CERTIFICADO No. <b>1459</b> |               |
|                        |                               | FECHA: 02-Feb-10            |               |
| CLIENTE                | PLESA ANAHUAC Y CIAS SA DE CV | No. DE ORDEN DE COMPRA      | 7687 REF 2189 |

|   |  |
|---|--|
| ESPECIFICACIONES  | PROCESO                                |
| A 105N - ASTM A 105N - 03/ ASME SA105N/NACE-MR-01-75/03 | FORGED/ROLLED 1150-1200 GRADES CELSIUS |

|  |  |
|--|--|
| NORMAS Y GRADOS  | TRATAMIENTO TERMICO  |
| ASME boiler and pressure Vessel SECC II, Code Part A, Edition 2004 | NORMALIZED 900 GRADES CELSIUS AND ALLOWED TO COOL IN STILL AIR |

| PARTIDA | CANTIDAD | DESCRIPCION DEL PRODUCTO        | NORMAS APLICABLES  | MEDIDA | COLADA |
|---------|----------|---------------------------------|--------------------|--------|--------|
| 01      | 20       | FORJA BRIDA W.N SCH-STD 150# RF | ASTM A-105-05      | 5"     | 261    |
| 02      | 30       | FORJA BRIDA A.C THD 150# RF     | ASME SA-105-05     | 2"     | 8936   |
| 03      | 30       | FORJA BRIDA A.C THD 150# RF     | ASME B16.5         | 1-1/2" | JCC    |
|         |          |                                 | NACE MR-0175-03/05 |        |        |

## PRUEBAS MECANICAS

| COLADA | RUPTURA (P.S.I.) | CEDENCIA (P.S.I.) | ELONGACION 2% | REDUCCION DE AREA % | DUREZA HB |
|--------|------------------|-------------------|---------------|---------------------|-----------|
| 261    | 85.254           | 43.564            | 26            | 39                  | 85        |
| 8936   | 82475            | 44622             | 31.1          | 59                  | 84        |
| JCC    | 82475            | 44622             | 31.1          | 59                  | 84        |

## % COMPOSICION QUIMICA

| COLADA | C    | Mn   | Si   | P     | S     | Cr    | Ni    | Mo    | Cu    | SN | Al | Nb | V     | Ti | Co | As | Sb | Hppm | Nppm | cEq | Cr+Mo | 1)   |
|--------|------|------|------|-------|-------|-------|-------|-------|-------|----|----|----|-------|----|----|----|----|------|------|-----|-------|------|
| 261    | 0.30 | 0.85 | 0.22 | 0.004 | 0.019 | 0.080 | 0.099 | 0.022 | 0.210 |    |    |    | 0.009 |    |    |    |    |      |      |     |       | 0.41 |
| 8936   | 0.31 | 0.81 | 0.21 | 0.006 | 0.016 | 0.063 | 0.074 | 0.020 | 0.190 |    |    |    | 0.001 |    |    |    |    |      |      |     |       | 0.35 |
| JCC    | 0.31 | 0.81 | 0.21 | 0.006 | 0.016 | 0.063 | 0.074 | 0.020 | 0.190 |    |    |    | 0.001 |    |    |    |    |      |      |     |       | 0.35 |

NOTA 1) Cr+Ni+Mo+Cu

PNMG  
ELABORO

02 FEB 2010  
**ENTREGADO**  
APROBADO

CC-01 REV1.0