



TECNO CORPORATIVO INDUSTRIAL SA DE CV
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Empresa Certificada Según:

NMX-CC-9001-IMNC-2008 / ISO 9001 : 2008



FLANGES & FITTINGS



BRIDAS Y CONEXIONES

REPORTE DE PRUEBAS NUMERO:

TEST REPORT NUMBER:

CERTIFICADO SERIE / CERTIFICATE SERIES:

MTR-TCI-AV-1851

CERTIFICADO DE INSPECCION / INSPECTION CERTIFICATE / EN 10204: 2004 - 3.1.

| | | | | | |
|--|-------------------------------------|-----------------|------------------------|---|-------------------------------|
| NOMBRE DEL CLIENTE / CLIENT NAME: PLESA ANAHUAC Y CIAS., S.A. DE C.V. | ORDEN DE COMPRA / P.O.NUM. 12415 | PED-ORP 2967 | REFERENCIA / REFERENCE | FECHA / DATE: lunes, 12 de marzo de 2012 | Codigo Formato: MHTCI-0312 |
|--|-------------------------------------|-----------------|------------------------|---|-------------------------------|

TIPO DE MATERIAL / MATERIAL TYPE :

CODIGOS y NORMAS APLICABLES / APPLICABLE CODES & NORMS

ASTM A 234/A234M-10, ASME A/SA234 / NACE-MR-01-75-2003 / ISO 15156-2003

ANSI B16.25 / ASME B16.25-03 // ASME Boiler & Pressure Vessel Code SECC II, Part A 2010

PROCESOS / PROCESS

HOT FORMED / FORMADO EN CALIENTE / 620°C - 980°C

TRATAMIENTOS TERMICOS / HEAT TREATMENTS

NORMALIZED 940°C AND ALLOWED TO COOL IN STILL AIR / NORMALIZADO A 940°C Y ENFRIADO AL AIRE CALMADO

DESCRIPCION DEL ARTICULO / DESIGNATION OF ARTICLE :

| PW/ITEM | CANTIDAD / QTY | INFORMACIÓN / INFORMATION | | MATERIA PRIMA / BASE MATERIAL | COLADA / HEAT CODE |
|---------|----------------|---------------------------|--------------------|---------------------------------|------------------------------|
| 1 | 2 | 14" X 12" | ECC RED BW SCH STD | ANSI/ASME B16.9-07 WPB SEAMLESS | MILL HEAT SUPPLIER No. HL94 |
| 2 | 5 | 12" X 10" | ECC RED BW SCH STD | ANSI/ASME B16.9-07 WPB SEAMLESS | MILL HEAT SUPPLIER No. 46089 |

% COMPOSICION QUIMICA / % CHEMICAL COMPOSITION :

| PW/ITEM | COLADA / HEAT CODE | % | | | | | | | | | | | | | | | | | | CEQ | Cr+Mo | (1*) | | |
|---------|--------------------|-------|-------|-------|-------|-------|------|------|-------|------|----|----|-------|-------|----|----|----|----|-------|-----|-------|-------|-------|-------|
| | | C | Mn | Si | P | S | Cr | Ni | Mo | Cu | SN | AL | Nb | V | Ti | Co | As | Sb | H ppm | | | | N | |
| 1 | HL94 | 0.140 | 0.958 | 0.239 | 0.008 | 0.005 | 0.08 | 0.06 | 0.010 | 0.11 | | | 0.000 | 0.002 | | | | | | | | 0.329 | 0.090 | 0.262 |
| 2 | 46089 | 0.170 | 0.770 | 0.27 | 0.012 | 0.002 | 0.07 | 0.06 | 0.030 | 0.12 | | | 0.000 | 0.000 | | | | | | | | 0.330 | 0.100 | 0.280 |

PROPIEDADES MECANICAS / MECHANICAL PROPERTIES :

PRUEBAS DE TENSION / TENSILE TEST

| No. PRUEBA / TEST No. | Dimension del Especimen / Specimen dimension | Dirección | Temperatura | RESISTENCIA Tensile / Strength (Mpa) / Ksi | LIMITE ELASTICO / Yield Point (Mpa) / Ksi | Elong.-A (Min) | Red. of Area | No. PRUEBA / Test No. | Temperatura | Dirección | PRUEBAS DE IMPACTO / IMPACT TEST | | | | DUREZA / Hardness |
|-----------------------|--|-----------|-------------|--|---|----------------|--------------|-----------------------|-------------|-----------|----------------------------------|--------------------|---------------------------------------|---------------------|-------------------|
| | | | | UTS-Rm | YS - Rp0.2% (Min) | 22% | | | | | Resiliencia / KV Energy J | Promedio / Average | Expansión Lateral / Lateral expansion | Fractura / Fracture | |
| 1 | HL94 | LONG. | | 491 | 366 | 42.7 | | | | | | | | | 197 MAX |
| 2 | 46089 | LONG. | | 515 | 343 | 41 | | | | | | | | | 142 |
| | | | | | | | | | | | | | | | 139 |

NOTA / NOTE: 1)Cr+Ni+Mo+Cu+V / NO WELDING HAS BEEN PERFORMED // THIS PRODUCT IS FREE FROM MERCURY AND RADIOACTIVE FOR EACH REDUCTION OF 0.01 % BELOW THE SPECIFIED CARBON MAXIMUM (0.35 %), AND INCREASE OF 0.06 % MANGANESE ABOVE THE SPECIFIED MAXIMUM (1.05 %) WILL BE PERMITTED UP TO A MAXIMUM OF 1.35 %

MARCADO / MARKING :

VX

VX FLANGES & FITTINGS ®

QA TCI / Inspectores autorizados / Authorized Works Inspector:

Ing. Jorge Ortiz / Ing. Andres Lira / Ing. Rafael Eguia

Digitalizado / Digitized:

JOE-01851

Certificamos que todos los resultados de pruebas e información de proceso y procedimientos asentados en el presente, son correctos y verdaderos, concordando con los Registros de soporte técnico, Aseguramiento de calidad y Sistema de Gestión de la Calidad. / We here by certify that all test results and process information contained here in, are true and correct in accordance with in all the records of technical support, QA management and the company quality management sistem. (EMPRESA CERTIFICADA SEGUN LA NORMA NMX-CC-9001-IMNC-2008/ ISO 9001:2008 para las actividades siguientes: FABRICANTE DE BRIDAS Y CONEXIONES / certified company for the following activities: MANUFACTURING PROCESS OF FLANGES AND FITTINGS.)

CODIGO DE SEGURIDAD

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

CERTIFICADO APROBADO POR: APPROVED CERTIFICATE BY:

APPROVED

A-137 B-400241
A47B3C80D73EBE5

ASSURANCE