



VALVULAS WORCESTER DE MEXICO, S.A. DE C.V.

RHINO VALVES WORLDWIDE



CERTIFICADO DE CALIDAD/QUALITY CERTIFICATE


EN 10 204 3.1 B

| | | | |
|--|-----------------------------|-----------------------------------|----------------------|
| Factura / Invoice: | Cantidad / Quantity: | Certificado / Certificate: | Fecha / Date: |
| 89495 | 12.00 | EE89495/16 | 29/Oct/02 |
| Descripción / Description: | | | |
| 444-T 4" 150# C/TAPON ROSC. | | | |
| Cliente / Customer: | | | |
| 7 TUBOS CONEXIONES Y TANQUES, S. A. DE C. V. | | | |

Numero de Rastreabilidad / Traceability Number:

**02H11449,02H11444,02H11459,02H11455,02H11518,02H11446,
02H11456,02H11463,02H11450,02H11460,02H11443,02H11447**

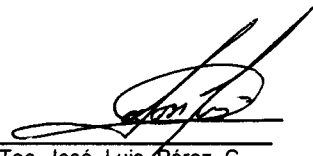
ORIGINAL



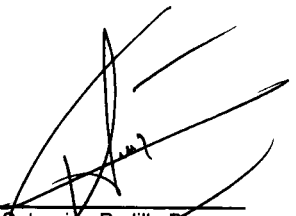
Válvulas Worcester de México, S.A. de C.V., certifica que el material indicado cumple con nuestras especificaciones como se describe en nuestras catálogos, hojas de especificación, dibujos y en otra literatura. Los productos, partes, materiales indicados aquí han sido comprados, fabricados, inspeccionados, probados de acuerdo con estas especificaciones, a nuestro sistema de calidad ISO 9001 y ASME/ANSI B16.34-1998 inciso (7).

Válvulas Worcester de México, S.A. de C.V., hereby certifies that the material supplied is in accordance with our specifications as describe in our catalog, specification sheets, drawings, and other literature. The products, parts and materials identified herein have been purchased, manufactured, inspected and tested in accordance with these specifications, our ISO 9001 quality assurance program and ASME/ANSI B16.34-1998 part (7).

Elaboro / Elaborated by:


 Tec. José Luis Pérez C.
 Tec. Metrologista

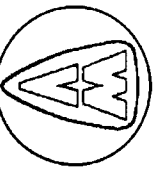
Aprobo / Aproved by:


 Ing. Saturnino Padilla Bécerra.
 Gerente de Aseguramiento de Calidad
 Quality Ass. Manager.

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CERTIFICADO DE CALIDAD / QUALITY CERTIFICATE

CERTIFICADO / CERTIFICATE: EE89495/16

| No. | COMPONENTES COMPONENTES | MATERIAL MATERIAL |
|-----|----------------------------|----------------------|
| 1 | CUERPO / BODY | ASTM A216 WCB |
| 2 | TAPA / PIPE END | ASTM A216 WCB |
| 3 | VASTAGO / STEM | ASTM A105 |
| 4 | ESFERA / SPHERE | ASTM A108 Gr. 10250 |

| ANÁLISIS QUÍMICO / CHEMICAL ANALYSIS | | | | | | | | | | | | | PROPIEDADES TÉCNICAS / TECHNICAL PROPERTIES | | | | | | | | |
|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|---|-----|-----|-----|--|--|------------------------------|-------------------------------------|--------------------|
| No. | C% | Mn% | Si% | P% | S% | Cr% | Mo% | Ni% | Cu% | V% | Fe% | Al% | N% | Zn% | Pb% | Sn% | RESISTENCIA A LA TENSION TENSILE STRENGTH | LIMITE DE CEDENCIA TENSILE STRENGTH | % ELONGACION % ELONGATION | REDUCCION DE AREA REDUCTION AREA | DUREZA HARDNESS |
| 1 | 0.220 | 1.130 | 0.480 | 0.023 | 0.029 | 0.102 | 0.065 | 0.001 | 0.048 | 0.011 | X | X | X | X | X | X | 555 Mpa | 335 Mpa | 31 | 52 | 171HB |
| 2 | 0.200 | 1.050 | 0.550 | 0.024 | 0.029 | 0.028 | 0.050 | 0.042 | 0.051 | 0.019 | X | X | X | X | X | X | 515 Mpa | 295 Mpa | 27 | 43 | 160HB |
| 3 | 0.035 | 1.050 | 0.350 | 0.040 | 0.035 | 0.300 | 0.120 | 0.400 | 0.400 | 0.080 | X | X | X | X | X | X | 485 Mpa | 250 Mpa | 22 | 30 | 187 HB |
| 4 | 0.280 | 0.600 | X | 0.040 | 0.050 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |

ORIGINAL

| TIPO DE PRUEBA TYPE OF TEST | PSI | RESULTADO RESULT |
|--|-------|-----------------------------------|
| PRUEBA HIDRAULICA DEL CUERPO HYDRAULIC TEST ON BODY | 450 | SIN FUGA "OK" NO LEAKAGE FOUND |
| PRUEBA HIDRAULICA EN ASIENTOS HYDRAULIC TEST ON SEATS | 350 | SIN FUGA "OK" NO LEAKAGE FOUND |
| PRUEBA NEUMÁTICA EN ASIENTOS NEUMATIC TEST ON SEATS | 50-80 | SIN FUGA "OK" NO LEAKAGE FOUND |