



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: |
| 92453 | 18.00 | EE92453/78 | 25/Mar/03 |
| Descripción / Description: | | | |
| 444-T 2" S.E. NPT | | | |
| Cliente / Customer: | | | |
| 7 TUBOS CONEXIONES Y TANQUES, S. A. DE C. V. | | | |

Numeros de Rastreabilidad / Traceability Number:

03B05126 A 03B05425

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:

Jose Luis Perez C.
Metrologista

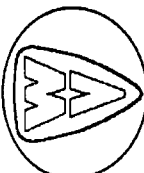
Aprobo / Aproved by:

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

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RHINO VALVES WORLDWIDE**



CERTIFICADO DE CALIDAD / QUALITY CERTIFICATE

CERTIFICADO / CERTIFICATE: EE92453178

| No. | COMPONENTES COMPONENTS | MATERIAL MATERIAL |
|-----|---------------------------|----------------------|
| 1 | CUERPO / BODY | ASTM A216 WCB |
| 2 | TAPA / PIPE END | ASTM A216 WCB |
| 3 | VASTAGO / STEM | ASTM A12L14 |
| 4 | ESFERA / SPHERE | ASTM A351 CF8M |

| ANALISIS QUIMICO / CHEMICAL ANALYSIS | | | | | | | | | | | | | PROPIEDADES MECANICAS / MECHANICAL 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 | YIELD STRENGTH | % ELONGACION | % ELONGACION | REDUCCION DE AREA | REDUCCION DE AREA | DUREZA | HARDNESS |
| 1 | 0.230 | 0.920 | 0.400 | 0.016 | 0.014 | 0.165 | 0.001 | 0.015 | 0.025 | 0.004 | X | X | X | X | X | X | 300 MPa | 555 MPa | 555 MPa | 26 | 45 | 45 | 148 HB | | | |
| 2 | 0.220 | 0.920 | 0.410 | 0.015 | 0.014 | 0.019 | 0.001 | 0.001 | 0.037 | 0.003 | X | X | X | X | X | X | 345 MPa | 530 MPa | 530 MPa | 28 | 51 | 51 | 154 HB | | | |
| 3 | 0.080 | 1.150 | 0.060 | 0.058 | 0.280 | 0.060 | 0.005 | 0.040 | 0.070 | X | X | X | X | X | 0.280 | X | X | X | X | X | X | X | X | 172 HB | | |
| 4 | 0.044 | 1.11 | 0.448 | 0.025 | 0.010 | 18.60 | 2.24 | 9.480 | X | X | X | X | X | X | X | X | 75582 psi | 45177 psi | 45177 psi | 47 | 47 | X | X | 156 HB | | |

ORIGINAL

| TIPO DE PRUEBA TYPE OF TEST | PSI | RESULTADO RESULT |
|--|-------|-----------------------------------|
| PRUEBA HIDRAULICA DEL CUERPO HYDRAULIC TEST ON BODY | 1500 | SIN FUGA "OK" NO LEAKAGE FOUND |
| PRUEBA HIDRAULICA EN ASIENTOS HYDRAULIC TEST ON SEATS | 1100 | SIN FUGA "OK" NO LEAKAGE FOUND |
| PRUEBA NEUMATICA EN ASIENTOS NEUMATIC TEST ON SEATS | 50-80 | SIN FUGA "OK" NO LEAKAGE FOUND |