



CERTIFICADO DE CALIDAD/QUALITY CERTIFICATE


EN 10 204 3.1 B

| | | | |
|--|-------------------------------------|--|-----------------------------------|
| Factura / Invoice: 97495 | Cantidad / Quantity: 1.00 | Certificado / Certificate: EE97495/111 | Fecha / Date: 28/Nov/03 |
| Descripción / Description: 446-M 2" S.E. NPT | | | |
| Cliente / Customer: 7 TUBOS CONEXIONES Y TANQUES, S. A. DE C. V. | | | |

Numeros de Rastreabilidad / Traceability Number:


9B04608

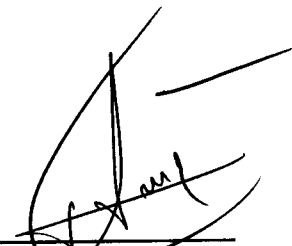
ORIGINAL

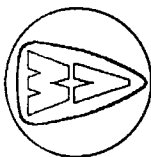


Válvulas Worcester de México, S.A. de C.V., certifica que el material indicado cumple con nuestras especificaciones como se describe en nuestras catálogos, hojas de especificación, dibujos y en otra literatura. Los productos, partes, materiales indicados aquí han sido comprados, fabricados, inspeccionados, 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 / Aprobed by: 
 Ing. Saturnino Padilla Becerra.
 Gerente de Aseguramiento de Calidad
 Quality Ass. Manager.



VALVULAS WORCESTER DE MEXICO, S.A. DE C.V.
RHINO VALVES WORLDWIDE



CERTIFICADO DE CALIDAD / QUALITY CERTIFICATE

CERTIFICADO / CERTIFICATE: EE97495/111

| No. | COMPONENTES COMPONENTS | MATERIAL MATERIAL |
|-----|---------------------------|----------------------|
| 1 | CUERPO / BODY | ASTM A216 WCB |
| 2 | TAPA / PIPE END | ASTM A216 WCB |
| 3 | VASTAGO / STEM | ANSI 316 |
| 4 | ESFERA / SPHERE | ASTM A351 CF8M |

ANALISIS QUIMICO / CHEMICAL ANALYSIS

| No. | C% | Mn% | Si% | P% | S% | Cr% | Mo% | Ni% | Cu% | V% | Fe% | Al% | N% | Zn% | Pb% | Sn% | PROPIEDADES MECANICAS / MECHANICAL PROPERTIES | | | | | |
|-----|-------|-------|-------|-------|-------|--------|-------|--------|-------|-------|-----|-----|----|-----|-----|-----|---|------------------|--------------------|----------------|--------------|--------------|
| | | | | | | | | | | | | | | | | | RESISTENCIA A LA TENSION | TENSILE STRENGTH | LIMITE DE CEDENCIA | YIELD STRENGTH | % ELONGACION | % ELONGATION |
| 1 | 0.220 | 1.040 | 0.440 | 0.016 | 0.010 | 0.112 | 0.012 | 0.047 | 0.040 | 0.001 | X | X | X | X | X | X | X | 555 Mpa | 340 Mpa | 27 | 49 | 155 HB |
| 2 | 0.220 | 0.900 | 0.380 | 0.018 | 0.012 | 0.059 | 0.001 | 0.016 | 0.039 | 0.002 | X | X | X | X | X | X | X | 535 Mpa | 325 Mpa | 29 | 51 | 162 HB |
| 3 | 0.050 | 1.830 | 0.480 | 0.033 | 0.024 | 16.320 | 2.210 | 11.650 | X | X | X | X | X | X | X | X | X | 76396 PSI | 89318 PSI | 63 | X | 127-135HB |
| 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 | X | 75582 psi | 45177 psi | 47 | 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 |