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|  <b>WORTHINGTON</b><br>ENTERPRISES                                                                                                                                                                                                                                                                                                                                                                |             | Located at 863 State Route 307 East<br>Jefferson, OH 44047<br>USA |                                                                                                                 |                   |                                      |
| <b>PRODUCT SPECIFICATION D.O.T. 4BA 240/TC-4BAM17</b>                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                                                                   |                                                                                                                 |                   |                                      |
| <b>CERTIFICATION OF CONFORMANCE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                                                   |                                                                                                                 |                   |                                      |
| PURCHASE ORDER                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             | CUSTOMER                                                          |                                                                                                                 |                   | QUANTITY                             |
| <b>FT24-0878</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             | <b>FIRETRACE USA, LLC</b>                                         |                                                                                                                 |                   | <b>258</b>                           |
| CUSTOMER<br>PART NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | WC PART NO. | LOT NUMBERS                                                       | BURST TEST<br>RESULT (PSI)                                                                                      | 1ST SERIAL NUMBER | LAST SERIAL NUMBER                   |
| 100601                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 335339      | MP 101 – MP 103                                                   | 1389                                                                                                            | MP 020001         | MP 020258                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                                   |                                                                                                                 |                   |                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                                   |                                                                                                                 |                   |                                      |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                                   |                                                                                                                 |                   |                                      |
| We certify the above referenced cylinders have been tested and certified as meeting the requirements of CFR 49, Parts 173.309 and 178.51 (DOT-4BA 240), CSA B339 (TC-4BAM17) and UL-2166. They were manufactured to the requirements of the cylinder drawing. The cylinders have been 100% proof-tested at a minimum pressure of 34 BAR (493 PSI). Minimum burst pressure is 68 BAR (986 PSI). The maximum working pressure of a DOT 4BA 240/TC-4BAM17 cylinder is 17 BAR (247 PSI). |             |                                                                   | ISSUED BY: (name, title, signature)<br><br>Billy J. Vencill, CERTIFIED INSPECTOR<br><br><i>Billy J. Vencill</i> |                   | DATE ISSUED:<br><br>January 14, 2025 |



### Certificate of Compliance and Test Report – Welded Cylinders

Manufactured under U.S. Department of Transportation (DOT) and/or Transport Canada (TC) regulations

Cylinder Manufacturer: Worthington Cylinders Location: 863 State Route 307 East  
Jefferson, OH  
Manufactured For: Worthington Enterprises Location: Jefferson, OH  
Consigned To: N/A

#### Cylinder Description and Design Criteria:

Nominal Cylinder Dimensions (Inches): 4.282 Outside Diameter by 12.107 Length  
Specification: DOT-4BA/TC-4BAM Service Pressure: 240 psi / 17 bar  
Nominal Water Capacity: 5.1 lbs / 2.3 l Test Pressure: 480 psi / 34 bar  
Tare or Mass Weight Range: See Attached Minimum Wall Thickness: 0.057 in  
Joint Efficiency: N/A Calculated Stress at Test Pressure: 15,340 psi

#### Manufacturing Process:

**Construction:** The general method of construction includes: cold forming the cylinder shell and end cap; welding a flange to the shell; and circumferentially welding the end cap to the shell to form the cylinder. Cylinders are pressure tested after welding. If valves are installed, an additional leak test is conducted.

#### Material and Heat Treatment:

The material used was identified and chemical analysis was verified. Record of such is contained in the Record of Chemical Analysis attached hereto. Heat treatment was conducted in accordance with the specification requirements.

#### Report/Marking Details:

Specification\*: DOT-4BA240/TC-4BAM17 Inspector's Mark\*: WORTHJJA  
Quantity: 258 Test Date\*: 01A25  
Serial Numbers\*: MP20001 through MP20258 Lot Numbers: 101 through 102  
Identifying Symbol\*: M4543 Heat Number or Codes: See Attached

\*Physical markings on cylinder or attachments

Additional Markings\*: Additional markings as identified on cylinder design drawings.

I hereby certify that I have determined that cylinders described on this report comply with the requirements of the Department of Transportation and/or Transport Canada specification DOT-4BA240/TC-4BAM17.

Remarks: N/A

|                      |                                                       |                  |
|----------------------|-------------------------------------------------------|------------------|
| Joseph Cassidy       | Arrowhead Industrial Services USA, Inc.<br>Graham, NC |                  |
| Certifying Inspector | Company Name and Location                             |                  |
| Bill Vencill         | Worthington Cylinders<br>Jefferson, OH                | January 14, 2025 |
| Certifying Inspector | Company Name and Location                             | Date             |

**Record of Chemical Analysis of Material for Cylinders****Serial Numbers:** MP20001 through MP20258**Cylinder Manufacturer:** Worthington Cylinders**Location:** 863 State Route 307 East  
Jefferson, OH**Nominal Cylinder Dimensions (inches):** 4.282 Outside Diameter by 12.107 Length**Material Manufacturer:** Cleveland-Cliffs Steel LLC

| Heat and<br>Code<br>Number | Type of<br>Analysis | Chemical Analysis |
|----------------------------|---------------------|-------------------|
|----------------------------|---------------------|-------------------|

| Heat    | Coil | (Check or<br>Ladle) |      |       |       |
|---------|------|---------------------|------|-------|-------|
|         |      |                     | C    | P     | S     |
| 4145862 |      | Ladle               | 0.06 | 0.007 | 0.003 |

**Material Manufacturer:** Nucor Steel Gallatin

| Heat and<br>Code<br>Number | Type of<br>Analysis | Chemical Analysis |
|----------------------------|---------------------|-------------------|
|----------------------------|---------------------|-------------------|

| Heat   | Coil | (Check or<br>Ladle) |      |      |       |       |
|--------|------|---------------------|------|------|-------|-------|
|        |      |                     | C    | MN   | P     | S     |
| AB2668 |      | Ladle               | 0.04 | 0.26 | 0.011 | 0.006 |

The previous analyses have been verified to comply with material authorized by the specification. Chemical analyses were made by: Material Manufacturer (Ladle) or Worthington Enterprises (Check).

|                      |                                                       |                  |
|----------------------|-------------------------------------------------------|------------------|
| Joseph Cassidy       | Arrowhead Industrial Services USA, Inc.<br>Graham, NC |                  |
| Certifying Inspector | Company Name and Location                             |                  |
| Bill Vencill         | Worthington Cylinders<br>Jefferson, OH                | January 14, 2025 |
| Certifying Inspector | Company Name and Location                             | Date             |





### Record of Hydrostatic and Physical Tests

Serial Numbers: MP20001 through MP20258  
Cylinder Manufacturer: Worthington Cylinders Location: 863 State Route 307 East  
Jefferson, OH  
Nominal Cylinder Dimensions (inches): 4.282 Outside Diameter by 12.107 Length

#### Lot Number 101

**Hydrostatic** Serial Number MP20004  
Total Expansion 3.80 cc Permanent Expansion Ratio 4.21 % Permanent Expansion 0.16 cc  
Water Capacity 5.25 lbs

**Mechanical** Serial Number MP20004  
Macro Etch Test Pass

**Tensile** Serial Number MP20004  
Top Thickness 0.061 in  
Top Tensile Strength 48.42 ksi Top Elongation 24t G.L. 49.8 % Top Yield Strength 38.96 ksi  
Bottom Thickness 0.064 in Bottom Yield Strength 37.33 ksi Bottom Tensile Strength 47.48 ksi  
Bottom Elongation 24t G.L. 47.8 % Bottom Reduction of Area 74.9 % Top Reduction of Area 74.4 %

**Burst** Serial Number MP20005  
Burst Test 1389 psi

#### Lot Number 102

**Hydrostatic** Serial Number MP20204  
Permanent Expansion Ratio 6.88 % Permanent Expansion 0.26 cc Total Expansion 3.78 cc  
Water Capacity 5.24 lbs

**Mechanical** Serial Number MP20204  
Macro Etch Test Pass

**Tensile** Serial Number MP20204  
Top Thickness 0.064 in Top Yield Strength 40.15 ksi Top Tensile Strength 48.42 ksi  
Top Elongation 24t G.L. 47.6 % Bottom Tensile Strength 46.98 ksi Bottom Thickness 0.061 in  
Bottom Yield Strength 36.80 ksi Top Reduction of Area 76.6 % Bottom Elongation 24t G.L. 48.7 %  
Bottom Reduction of Area 75.0 %

The previous results represent sample cylinders selected from each lot. All other cylinders in the lot were subjected to the required test pressure stated on the Certificate of Compliance and Test Report and show no defect.

|                      |                                         |                  |
|----------------------|-----------------------------------------|------------------|
| Joseph Cassidy       | Arrowhead Industrial Services USA, Inc. |                  |
| Certifying Inspector | Graham, NC                              |                  |
| Bill Vencill         | Company Name and Location               | January 14, 2025 |
| Certifying Inspector | Worthington Cylinders                   | Date             |
|                      | Jefferson, OH                           |                  |