

PORON® 4701-50 Firm – Thin as Cast – Data Sheet

| PROPERTY   | TEST METHOD   | VALUE  |
|--|---|--|
| <b>PHYSICAL</b>  |   |  |
| Density, kg/m <sup>3</sup><br>(lb./ft <sup>3</sup> )<br>Tolerance, % | ASTM D 3574-95, Test A  | 480<br>(30)<br>± 10  |
| Thickness, mm<br>(inches)<br>Tolerance, mm (inches)                  |   | 0.43 – 0.50<br>(0.017 - 0.020)<br>0.08 (± 0.003)                           |
| Standard Color (Code)  |   | Black (04)   |
| Compression Force Deflection<br>Range kPa (psi)<br>Typical kPa (psi) | 0.51cm/min (0.2" / min). Strain Rate<br>Force Measured @ 25% Deflection   | 103 – 310 (15 – 45)<br>221 (32)  |
| Hardness, Durometer, Shore "O"                                       | ASTM D 2240-97  | 55   |
| Compression Set, % max.  | ASTM D 1667-90<br>Test D @ 23°C (73°F)<br>ASTM D 3574-95<br>Test D @ 70°C (158°F)<br>ASTM D 3574-95 Test J/Test D<br>autoclaved 5 hrs @ 121°C (250°F) | 5<br>10<br>5   |
| Dimensional Stability, % max. change                                 | 22 hrs @ 80°C (176°F) in a forced-air oven  | ± 1  |
| Tensile Strength, kPa (psi), min                                     | ASTM D 3574-75 Test E   | 1106 (160)   |
| Tensile Elongation, % min.,  | ASTM D 3574-75 Test E   | 90   |
| Tear Strength, kN/m (pli) min<br>Typical kN/m (pli)                  | ASTM D 264-91 Die C   | 1.6 (9)<br>4.4 (25)  |
| <b>ELECTRICAL AND THERMAL</b>  |   |  |
| Dielectric Constant, K' ("DK")                                       | ASTM D 150 measurements at 22°C<br>(72°F) relative humidity 50% for 24 hrs.   | 1.63   |
| Dielectric Strength, kV/m (volts/mil)                                | ASTM D 149-97a  | 1969 (50)  |
| Dissipation Factor, tan D ("DF")                                     | ASTM D 150-98   | 0.05   |
| Volume Resistivity, ohm-cm (ohm-in)                                  | ASTM D 257-99   | 2 x 10 <sup>12</sup> (7.87 x 10 <sup>11</sup> )                            |
| Surface Resistivity, ohm/sq.   | ASTM D 257-99   | 7 x 10 <sup>12</sup>   |
| Thermal Conductivity, W/m-C<br>(BTU-in./hr/ft <sup>2</sup> -F)       | ASTM C 518-98   | -  |
| Coefficient of Thermal Expansion                                     |   | 2.3 - 3.1 x 10 <sup>-4</sup> in/in/°C (1.3-1.7 x10 <sup>-4</sup> in/in/°F) |

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PORON® 4701-50 Firm – Thin as Cast, Continued

| PROPERTY   | TEST METHOD   | VALUE                 |
|--|---|-----------------------|
| <b>TEMPERATURE RESISTANCE</b>                                    |   |                       |
| Recommended Constant Use, max.                                   | SAE J-2236  | 90°C (194°F)          |
| Recommended Intermittent Use, max.                               |   | 121°C (250°F)         |
| Embrittlement  | ASTM D 746-98   | -40°C (-40°F)         |
| Cold Flexibility   | MIL-P-12420D 1991 @ -40°C (-40°F)   | Pass                  |
| <b>FLAMMABILITY AND OUTGASSING</b>                               |   |                       |
| Flammability, mm (inches)  | UL 94HBF (File E20305) (Pass ≥)<br>MVSS 302 (Pass ≥)<br>CSA Comp HBF (File 188149) (Pass ≥) | -<br>1.1 (0.045)<br>- |
| Fogging  | SAE J-1756 3 hrs @ 100°C (212°F)  | -                     |
| Outgassing, Total Mass Loss (TML) %                              | ASTM E 595-93 24 hrs @ 125°C (257°F) @ <7kPa (1.02psi)                                      | 0.9                   |
| Outgassing, Collected Volatile Condensable Materials (CVCN) %    |   | 0.06                  |
| Outgassing, Water Vapor Regain (WVR) %                           |   | 0.43                  |
| <b>ENVIRONMENTAL</b>   |   |                       |
| Gasketing and Sealing  | UL JMST2 (Consisting of UL50 and UL508)<br>CAN/CSA – C22.2 No. 94-M91                       | File MH15464          |
| Water Absorption, High Humidity Exposure, % weight gain, typical | AMS 3568-95   | 2                     |
| Water Absorption, Immersion Testing, % weight gain, typical      | ASTM D 570-95   | 5                     |
| UV Resistance  | ASTM G 53-96  | Good                  |
| Ozone Resistance   | GM 4486P-95   | Pass                  |
| Corrosion Resistance   | AMS 3568-91   | Pass                  |
| Mildew/Bacteria Resistance                                       | ASTM G 21   | Good                  |
| Staining   | ASTM D 925  | No Stain              |

Notes:

- - Represents testing not available at this time.
- All metric conversions are approximate.
- Additional technical information is available.
- Typical values should not be used for specification limits.

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