Molydisulfide-Reinforced Polytetrafluoroethylene (GFPM55)

GFPM55 has excellent wear resistance in vacuum and inert gas applications, and can be used both in liquid services or severely dry applications. GFPM55 has high extrusion resistance, and is suitable for high-pressure and low-speed rotary applications. Dynamic surfaces in contact with a seal made from GFPM55 should have a hardness of Rc 40 or higher.

GFPM55 is recommended for applications that require good wear resistance in liquids at temperatures from -320 °F to +500 °F (-196 °C to +260 °C), such as down-hole logging tools, adhesive and epoxy dispensing equipment, chemical and laboratory equipment, and vacuum chambers.

Chemical Compatibility
GFPM55 has excellent chemical compatibility. This material is compatible with most fluids and gases, except some acids such as sulfuric, nitric and hydrofluoric acids. (For more compatibility information, request report TR-60A, or go to http://www.balseal.com/techlib. Select Technical Reports, then select TR-60A Chemical Compatibility Guide.)

FDA Compliance
GFPM55 is not FDA compliant. (Request Report 50-640 for Bal Seal’s definition of FDA compliant).

Mechanical Properties
The mechanical properties of GFPM55 at ambient temperatures are:

- Tensile strength: 2900 psi (204 kg/cm²)
- Elongation: 210%

The following chart shows the wear rate of GFPM55 when it comes in contact with different media at various speeds and pressures.

<table>
<thead>
<tr>
<th></th>
<th>AIR</th>
<th>WATER</th>
<th>OIL</th>
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</thead>
<tbody>
<tr>
<td>Speed (75 FPM) – pressure (267 PSI)</td>
<td>Wear Rate at 20,000 P.V.</td>
<td>Wear Rate at 75,000 P.V.</td>
<td>Wear Rate at 75,000 P.V.</td>
</tr>
<tr>
<td>86.8 x 10^-10 (10.3 x 10^-7)</td>
<td>3.0 x 10^-10 (0.36 x 10^-7)</td>
<td>1.5 x 10^-10 (0.18 x 10^-7)</td>
<td>0.8 x 10^-10 (0.09 x 10^-7)</td>
</tr>
<tr>
<td>Speed (1000 FPM) – pressure (75 PSI)</td>
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<tr>
<td>0.8 x 10^-10 (0.09 x 10^-7)</td>
<td>1.3 x 10^-10 (0.15 x 10^-7)</td>
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</tr>
</tbody>
</table>

Color
Black

Advantages of GFPM55
- Higher extrusion resistance than PTFE and G
- Higher wear resistance than PTFE, G and GC in air
- Lower friction than PTFE, G and GC in air

Other Information
For additional information, please contact our Technical Sales Representative at (949) 460-2100. Bal Seal maintains a vast library of material references and testing information.