

Graphite-Filled Polytetrafluoroethylene (G)

G is a general-purpose material limited to light-duty service where more extrusion and creep resistance and less wear than virgin PTFE are required. **G** has a lower coefficient of friction than PTFE in water and other aqueous media; however, it is not recommended for general use in vacuum or dry gas applications.

G is recommended for use in applications that require good wear in liquids and humid conditions at temperatures from -450 °F to +450 °F (-268 °C to +232 °C). It can also be used in laboratory equipment and in general-purpose applications.

Chemical Compatibility

G has good chemical compatibility. This material is compatible with most fluids and gases, except strong oxidizers and certain concentrated acids. (For more compatibility information, request report TR-60A, or go to <http://www.balseal.com/techlib>. Select **Technical Reports** (Login Required), then select **TR-60A Chemical Compatibility Guide**.)

FDA Compliance

G is not FDA compliant. (Request Research Report 50-640 for Bal Seal's definition of FDA compliant).

Mechanical Properties

The mechanical properties of **G** at ambient temperatures are:

Tensile strength	ASTM D638	3200 psi (225 kg/cm ²)
Elongation	ASTM D638	250%

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

"K" Wear Factor In ³ -min./ft-lb-hr x 10 ⁻¹⁰ ("K" Cm ³ -min./Kg-m-hr x 10 ⁻⁷)				
AIR	WATER		OIL	
Wear Rate at 50,000 P.V.	Wear Rate at 100,000 P.V.		Wear Rate at 100,000 P.V.	
Speed (75 FPM) – pressure (667 PSI)	Speed (100 FPM) – pressure (1000 PSI)	Speed (1000 FPM) – pressure (100 PSI)	Speed (100 FPM) – pressure (1000 PSI)	Speed (1000 FPM) – pressure (100 PSI)
550 x 10 ⁻¹⁰ (65 x 10 ⁻⁷)	10 x 10 ⁻¹⁰ (1.2 x 10 ⁻⁷)	150 x 10 ⁻¹⁰ (17.8 x 10 ⁻⁷)	2.0 x 10 ⁻¹⁰ (0.2 x 10 ⁻⁷)	15 x 10 ⁻¹⁰ (1.8 x 10 ⁻⁷)

Color

Black

Cost

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Advantages

- Suitable for use in aqueous media
- Higher extrusion, creep and wear resistance than virgin PTFE in air and aqueous media
- Lower friction than PTFE in aqueous media

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.

It is essential that the customer run evaluation testing under actual service conditions with a sufficient safety factor to determine if the proposed, supplied, or purchased, Bal Seal Engineering products are suitable for the intended purpose and to confirm expected results. Bal Seal Engineering makes no warranty, express or implied, regarding Bal Seal Engineering products or of the information contained herein, including but not limited to, warranties of merchantability, performance, and fitness for a particular use or purpose. Bal Seal Engineering shall not be liable for any loss or damage of any kind or nature that may result from the use of, reference to, or reliance on, the information contained herein, including, but not limited to, consequential, special (including loss of profits) direct, indirect, incidental, or similar damages, even if Bal Seal Engineering has been advised of the possibility of such damages © 2010 R-57 (50-442); M 8 Rev. C (623-7 and 623-64) 04-13-10

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