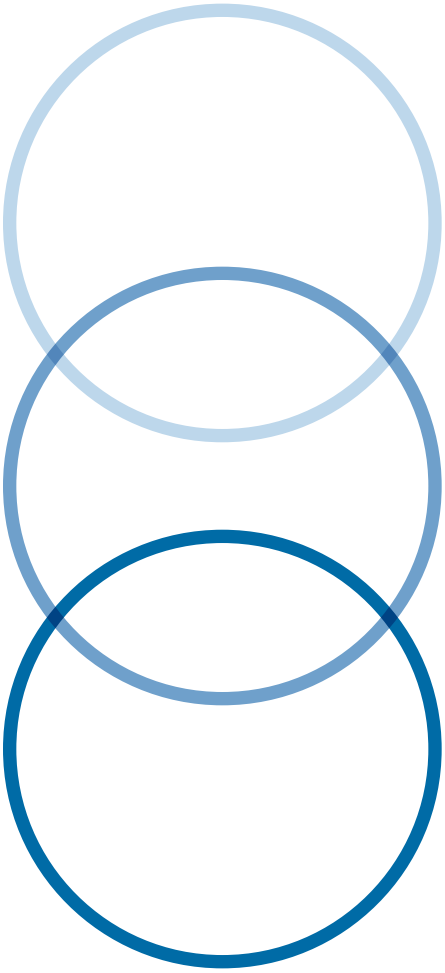
BAL SEAL ENGINEERING

Custom components that drive tomorrow's technologies.®



Graphite Fiber-Reinforced Polytetrafluoroethylene (GFP)

Material Data Sheet
M-10.5 (Rev. 01; 06-16-20)

19650 Pauling
Foothill Ranch, CA
USA 92610-2610
O +1 949 460 2100
F +1 949 460 2300

Jollemanhof 16, 5th floor
1019 GW Amsterdam
The Netherlands
O +31 20 638 6523
F +31 20 625 6018

Suite 901, Chinachem
Century Tower
178 Gloucester Road,
Wanchai, Hong Kong
O +852 28681860
F +852 22956753

www.balseal.com

A KAMAN COMPANY

Overview

GFP, a reinforced graphite fiber PTFE material, is used in moderate to extreme service conditions. This material has excellent wear resistance in a wide range of speeds, in medium pressures, and in high temperatures. GFP performs well in water and other liquid solutions and has limited use in vacuum or inert gas applications. Dynamic surfaces in contact with a seal made from GFP should have a hardness of 40 Rc or higher. GFP is recommended for applications that require good wear resistance in liquids and humid conditions at temperatures from –320 °F to +500 °F (–196 °C to +260 °C).

Chemical Compatibility

GFP 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, refer to report TR-60A.

Compliance

GFP is not FDA compliant or compatible. Bal Seal defines compliant materials as compositions in which all ingredients are designated by the FDA to be "safe for use in food contact." In addition, none of the ingredients are listed on the California Code of Regulations Hazardous Substance list (https://www.dir.ca.gov/title8/339.html). Bal Seal defines compatible materials as compositions in which the majority (67%) of ingredients are designated by the FDA to be "safe for use in food contact." In addition, none of the ingredients are listed on the California Code of Regulations Hazardous Substance list (https://www.dir.ca.gov/title8/339.html).

Color

Black (color variations may occur during processing).

Heat Treatment

Certain seal sizes are supplied as GFP HT with a heat treatment to limit dimensional changes. Material properties and composition remain the same.

Mechanical Properties of GFP

Tensile Strength (typical)	Elongation (typical)	Hardness (Shore D)	Hardness (Rc)
2,200 psi	200%	63	47

Advantages

- Reduced extrusion
- High wear resistance
- Increased creep resistance

Application Examples

- Downhole logging tools
- Adhesive and epoxy dispensing equipment
- Chemical/laboratory equipment

Other Information

For more information, contact a technical sales representative, or e-mail us at sales@balseal.com.