

## **FlexiSeal Piston & Rod Seal Materials**

The most popular PTFE fillers used for FlexiSeal rod & piston products are carbon fiber, fiberglass, aromatic polyester and graphite. Virgin PTFE is also popular for these products when conditions are mild.

### ***0502 — Carbon Fiber Filled***

Carbon fiber lowers creep, increases flex and compressive modulus and raises hardness. Coefficient of thermal expansion is lowered and thermal conductivity is higher for compounds of carbon fiber filled PTFE. Ideal for automotive applications in shock absorbers and water pumps.

### ***0601 — Aromatic Polyester Filled***

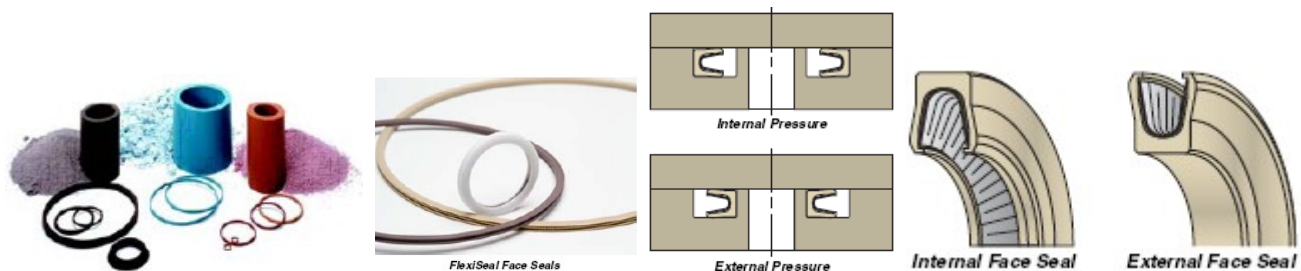
Aromatic polyester is excellent for high temperatures and has excellent wear resistance against soft, dynamic surfaces. Not recommended for sealing applications involving steam.

### ***0203 — Fiberglass Filled***

Glass fiber has a positive impact on creep performance of PTFE. It also adds wear resistance and offers good compression strength.

### ***0301 — Graphite Filled***

Since graphite is often used as a lubricant, it does not significantly increase the coefficient of friction of PTFE when used as a filler. The low friction allows the compound to be used when both shaft speed and pressure are high. Graphite also is chemically inert which enables its use in corrosive Medias.



## **FlexiSeal® Face Seals Materials**

The most popular PTFE fillers used for FlexiSeal Face Seal products are graphite, carbon fiber and aromatic polyester. Virgin PTFE is also one of the most common material choices for face seals, especially when chemical compatibility is critical.

### ***0100 — Virgin PTFE***

Virgin PTFE has the best chemical resistance and lowest coefficient of friction of any of the material choices. Its purity also makes it suitable for food contact applications.

### ***0301 — Graphite Filled***

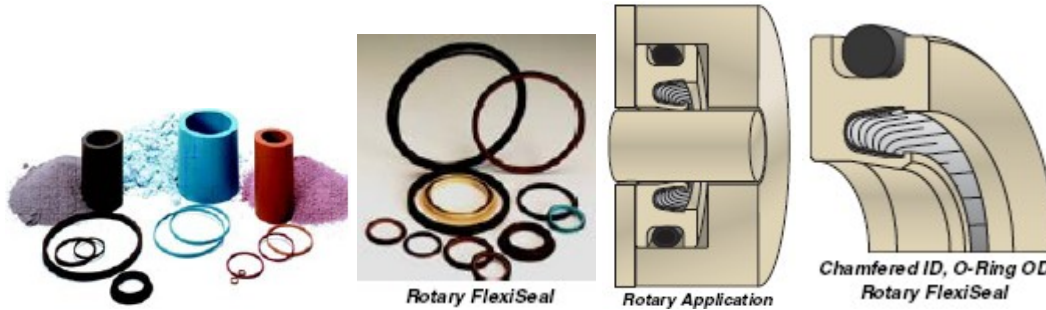
Graphite filled PTFE has extremely low coefficient of friction due to the low friction characteristics of graphite. Graphite is chemically inert. Graphite imparts excellent wear properties and high PV to PTFE.

### ***0502 — Carbon Fiber Filled***

Carbon fiber lowers creep, increases flex and compressive modulus and raises hardness. Coefficient of thermal expansion is lowered and thermal conductivity is higher for compounds of carbon fiber filled PTFE. Ideal for automotive applications in shock absorbers and water pumps.

**0601 — Aromatic Polyester Filled**

Aromatic polyester is excellent for high temperatures and has excellent wear resistance against soft, dynamic surfaces. Not recommended for sealing applications involving steam.



**FlexiSeal® Rotary Seals Materials**

The most popular PTFE fillers used for FlexiSeal Rotary products are carbon fiber, graphite, Ryton®/carbon and Ryton/carbon/TFM. PTFE is also popular for these products without any filler (virgin PTFE).

**0502 — Carbon Fiber Filled**

Carbon fiber lowers creep, increases flex and compressive modulus and raises hardness. Coefficient of thermal expansion is lowered and thermal conductivity is higher for compounds of carbon fiber filled PTFE. Ideal for automotive applications in shock absorbers and water pumps.

**0602 — Ryton/Carbon Filled**

Ryton/Carbon filled PTFE features improved surface lubricity and abrasion resistance. It should be used only on shafts hardened to 60 Rc or more.

**0301 — Graphite Filled**

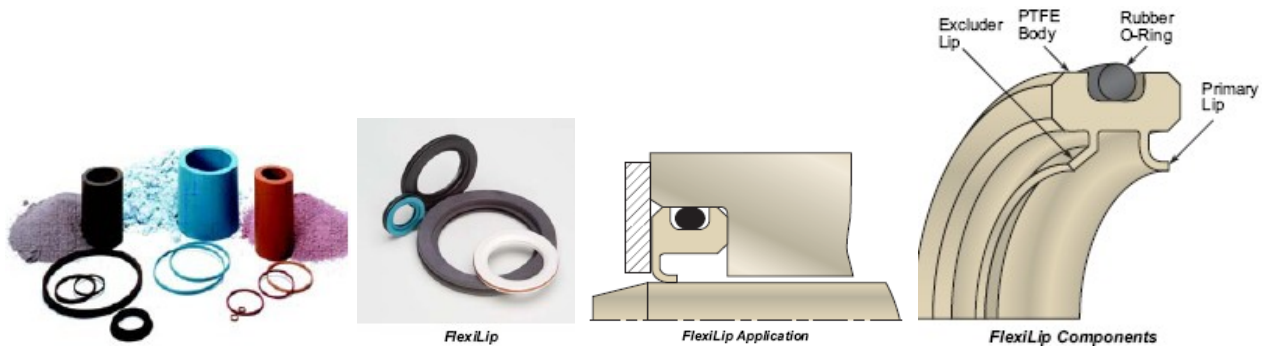
Graphite filled PTFE has extremely low coefficient of friction due to the low friction characteristics of graphite. Graphite is chemically inert. Graphite imparts excellent wear properties and high PV to PTFE.

**0601 — Aromatic Polyester Filled**

Aromatic Polyester offers excellent high temperature capabilities and excellent wear resistance against soft, dynamic surfaces. Aromatic polyester is not recommended for sealing applications involving steam.

**0203 — Fiberglass Filled**

Glass fiber is the most common filler with a positive impact on creep performance of PTFE. Glass fiber adds wear resistance and offers good compression strength.



## **FlexiLip™ Rotary Seals Materials**

The most popular fillers for FlexiLip products are graphite, fiberglass/ molybdenum disulfide, carbon fiber and mineral.

### ***0301 — Graphite Filled***

Since graphite is often used as a lubricant, it does not significantly increase the coefficient of friction of PTFE when used as a filler. The low friction allows the compound to be used when both shaft speed and pressure are high. Graphite also is chemically inert which enables its use in corrosive medias.

### ***0615 — Proprietary Low Wear PTFE***

This proprietary filled PTFE offers low wear and friction properties, used in general applications where long life is required. Not recommended for applications with abrasive media.

### ***0204 — Molybdenum Disulfide and Fiberglass Filled***

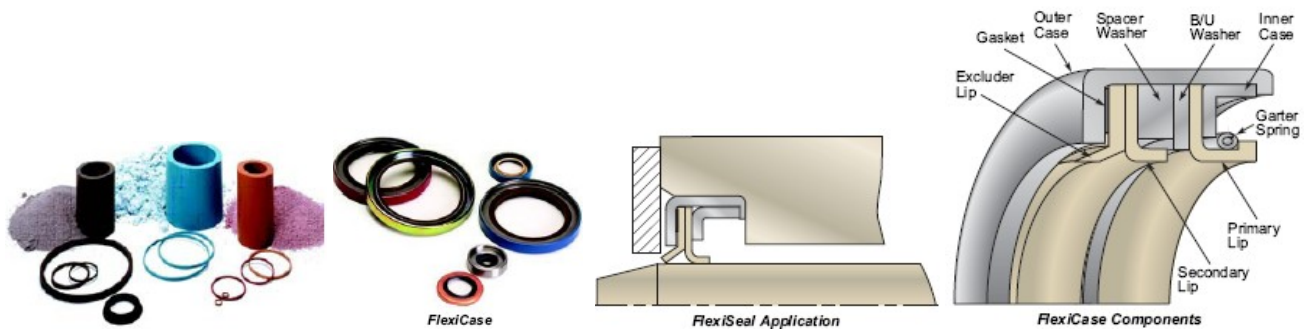
Molybdenum disulfide increases the hardness of the seal surface while decreasing friction. It is normally used in small proportions combined with other fillers such as glass. MoS<sub>2</sub> is also inert towards most chemicals.

### ***0512 — Carbon Fiber Filled***

Carbon fiber lowers creep, increases flex and compressive modulus and raises hardness. Coefficient of thermal expansion is lowered and thermal conductivity is higher for compounds of carbon fiber filled PTFE. Ideal for automotive applications in shock absorbers and water pumps.

### ***0127 — Mineral Filled***

Mineral is ideal for high temperatures and offers low abrasion to soft surfaces. PTFE with this filler can easily be qualified to FDA and other food-grade specifications.



## **FlexiCase™ Rotary Seals Materials**

The most popular fillers for FlexiCase products are graphite, fiberglass/molybdenum disulfide, carbon fiber and mineral.

### ***0301 — Graphite Filled***

Since graphite is often used as a lubricant, it does not significantly increase the coefficient of friction of PTFE when used as a filler. The low friction allows the compound to be used when both shaft speed and pressure are high. Graphite also is chemically inert which enables its use in corrosive medias.

### ***0615 — Proprietary Low Wear PTFE***

This proprietary filled PTFE offers low wear and friction properties, used in general applications where long life is required. Not recommended for applications with abrasive media.

### ***0204 — Molybdenum Disulfide and Fiberglass Filled***

Molybdenum disulfide increases the hardness of the seal surface while decreasing friction. It is normally used in small proportions combined with other fillers such as glass. MoS<sub>2</sub> is inert towards most chemicals.

### ***0502 — Carbon Fiber Filled***

Carbon fiber lowers creep, increases flex and compressive modulus and raises hardness. Coefficient of thermal expansion is lowered and thermal conductivity is higher for compounds of carbon fiber filled PTFE. Ideal for automotive applications in shock absorbers and water pumps.

### ***0127 — Mineral Filled***

Mineral is ideal for improved upper temperatures and offers low abrasion to soft surfaces. PTFE with this filler can easily be qualified to FDA and other food-grade specifications.

## **Metal Can Materials**

### ***S — Stainless Steel***

Good chemical resistance properties up to 600 °F. Resists corrosive media up to 400 °F.

### ***C — Cold-Rolled Steel***

Good in oils and other media friendly to ferrous metals up to 600 °F. Excellent value for cost sensitive projects.

### ***Z — Zinc-Plated Cold-Rolled Steel***

Good in oils and mildly corrosive media up to 450 °F. A lower cost alternative to stainless steel.

### ***A — Aluminum***

Excellent lightweight, high-strength material. Should be used with aluminum housing when thermal cycling is likely.