

Polymer-Filled Polytetrafluoroethylene (SP-45)

SP-45 is a general-purpose material formulated for contact with shafts and housings that are made from 300 series stainless steel, aluminum, and other soft metallic or plastic materials. **SP-45** material has low abrasion resistance to mating parts. The material's high PV (pressure-velocity) limits make it suitable for sealing most media, including various liquids and gases, at high speeds and low to moderate pressures. **SP-45** is recommended for general service applications at temperatures from -450 to $+500$ °F (-268 to $+260$ °C). It may be used in food contact applications.

Chemical Compatibility

SP-45 has excellent chemical compatibility. This material is compatible with most fluids and gases, but it is not recommended for use with sulfuric and nitric acids, alkali metals, chlorine, fluorine, lithium, potassium, and sodium at high temperatures. (For more compatibility information, request report TR-60A, or go to www.balseal.com/technical-library/technical-reports.)

FDA Compatible

SP-45 is "FDA compatible" for use in food contact. Bal Seal Engineering defines "FDA compatible" as compositions where the majority (97% or more) of the ingredients are designated by the FDA as "safe for use in food contact" and contain no ingredient listed in the California Code of Regulations Hazardous Substance List.

Mechanical Properties

Typical mechanical properties of **SP-45** at ambient temperatures:

Tensile strength	ASTM D638	3000 psi (211 kg/cm ²)
Elongation	ASTM D638	315%

Color

Light green

Advantages of SP-45

(For comparative material data, please refer to technical report TR-8A, "Properties of Bal Seal® Polymer Materials")

- Low abrasion to soft materials
- High PV operating limits in most liquid and air applications
- Material maintains its properties at high speeds

Other information

For additional information, please contact a technical sales representative at one of our offices nearest you. Bal Seal Engineering, Inc. 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. © 2015 M15 Rev. C (623-14 and 623-64) 06-09-15

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