

Polymer-Filled Polytetrafluoroethylene (SP-59)

SP-59 is a Bal Seal material intended for use in moist or wet food contact applications and in applications that require a high degree of chemical compatibility. **SP-59** has low abrasion resistance to soft mating parts and is suitable for sealing moist environments and aqueous solutions at low speeds.

SP-59 is recommended for use in temperatures from -320 to +475 °F (-196 to +246 °C).

Chemical Compatibility

SP-59 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 fluoride, lithium, potassium and sodium at high temperatures. (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

SP-59 is made from FDA compliant (approved) resins. (Request Research Report 50-640-1 for Bal Seal's definitions of FDA compatible and compliant).

Mechanical Properties

The mechanical properties of **SP-59** at ambient temperatures are:

Tensile strength	ASTM D638	2,000 psi (141 kg/cm ²)
Elongation	ASTM D638	325%

The following chart shows the wear rate of **SP-59** 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)
Testing in process	Testing in process	Testing in process	Testing in process	Testing in process

Color

Tan

Cost

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Advantages of SP-59

- Made from "FDA compatible and compliant" resins and materials
- Low abrasion to soft materials
- High PV values in moist or wet applications
- Material maintains its properties at low speeds

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 M22 Rev. C (623-22 and 623-64) 04-13-10

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