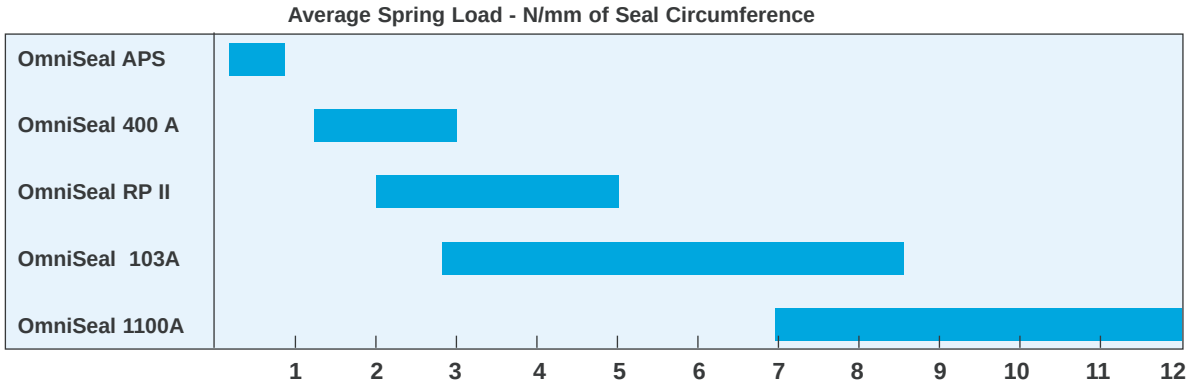
Friction

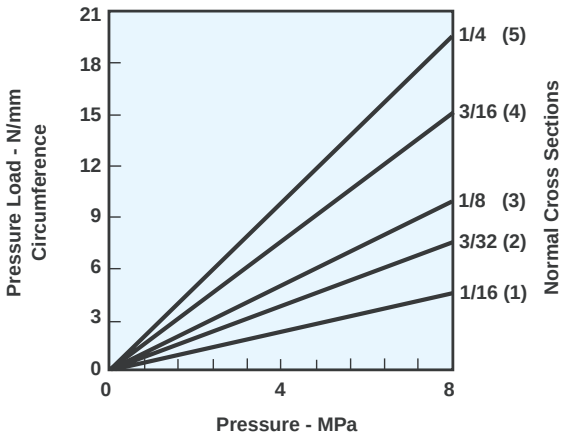
Friction, a measurement of the resistance to sliding between a seal and hardware surfaces, is directly related to seal material coefficient of friction and the normal load. Some other factors affecting friction are lubrication, temperature and hardware surface finishes. An approximate friction value for non-lubricated conditions can be calculated using the charts and formulas on this page. Lubrication provided by the media may produce lower friction results.

It is difficult to predict how the running and break-out friction values will differ without testing under actual existing conditions. SGPPL manufacturers a variety of springs with lower or higher loads than shown on this page. Also, special springs can be developed when required.

For assistance with applications where friction is critical. Contact our Technical Support. (see inside back cover for complete information.)

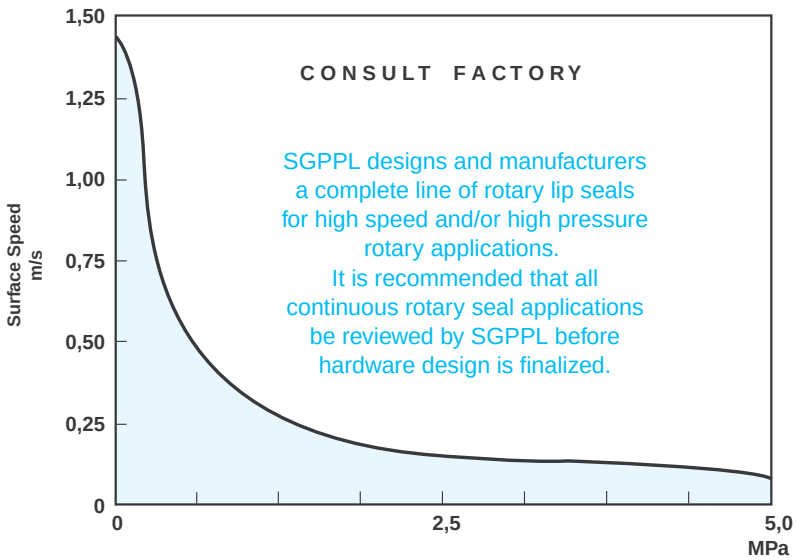


Note: The values above are for standard spring materials and thicknesses. Other materials and spring thicknesses may be substituted; consult factory for availability.



F = Total load—N/mm circumference (pressure load + spring load)
D = Diameter of dynamic surface
R = D/2 (Radius)
μ = Material coefficient of friction (See Page 14)
Linear Friction (N) = F x D x π x μ
Frictional Torque (Nm) = F x D x π x μ x R

The approximate total load of an OmniSeal can be calculated by adding the pressure load found in the chart above to the average spring load shown in the top chart.



Rotary Motion

Use the chart above to qualify OmniSeal seals for continuous rotary applications.