



Omniseal Solutions
SAINT-GOBAIN

Rulon® 142

RULON® FLUOROPOLYMERS

THE LINEAR BEARING THAT GOES BEYOND IN THE LONG RUN



An Advanced Material That Improves Your Performance

Omniseal Solutions' Rulon® 142 material is a custom-formulated linear bearing solution designed to improve the performance of sliding surfaces in a variety of equipment. Due to the unique formulation of this material, machine designers and rebuilders benefit from operational efficiency and optimized end product quality.

Designed For Your Applications

The most common application for the Rulon® 142 solution is linear guideways on the X, Y and Z axis slides of industrial CNC and manual machine tools. Valued as a linear bearing, you will also find them in gibs, motor mounts, and rotary tables on metalworking and woodworking machinery around the world.

- Hydraulic/pneumatic cylinder piston and rod bearings
- Nitrogen shock absorber seal rings
- Sluice gate bearings, hydroelectric plants and irrigation systems
- Wear strips on packaging and bottling machinery
- Adjusting gibs on log debarking equipment

Beyond the boundaries of
POSSIBLE

- > **Eliminates Stick Slip:** Torque requirements of machines are lowered, allowing for more precision and faster positioning.
- > **Vibration Dampening:** Noise and shock from work loads are reduced, while quality of production is improved.
- > **Operates Lubrication Free:** Due to self lubricating feature, machine ways and slides are protected from galling caused by lubrication failure.
- > **Uniform Friction:** Consistent friction under various loads, temperatures, and other external conditions results in uniform production.
- > **Long Life:** Accuracy is maintained on guideways for extended periods of time due to wearability.
- > **Easy Application:** Due to relatively simple application method, OEMs and machine rebuilders can utilize Rulon® 142 material to improve their equipment performance.
- > **Design Diversity:** Solution can be installed in most vertical, horizontal, and rotary ways on metal or woodworking machinery; lumber handling equipment; hydraulic presses and shears; and a variety of other mechanical equipment.



Deformation Under Load: As the amount of creep or relaxation that occurs in a material while loaded, deformation under load can cause critical changes in tolerances because of thickness variations in the bearing surface. Rulon® 142 material has demonstrated deformation rates up to 50% lower than other linear bearing solutions in both laboratory and field use. Refer to Figure 3.

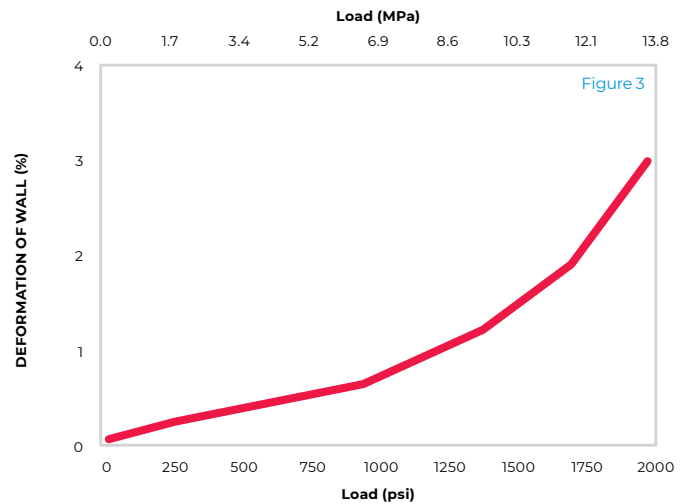
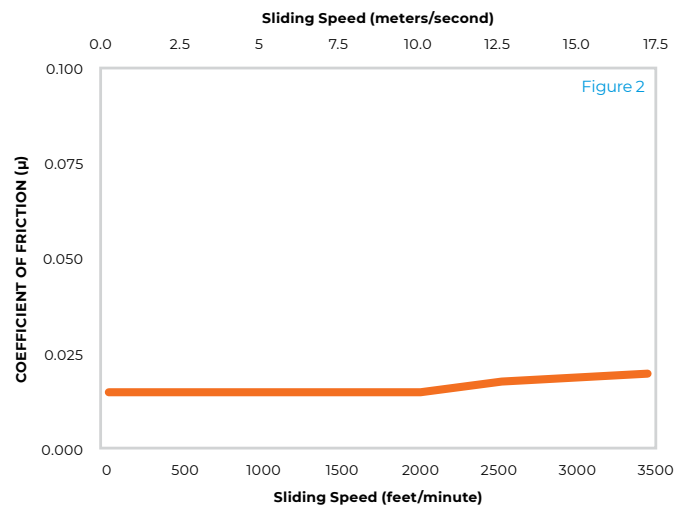
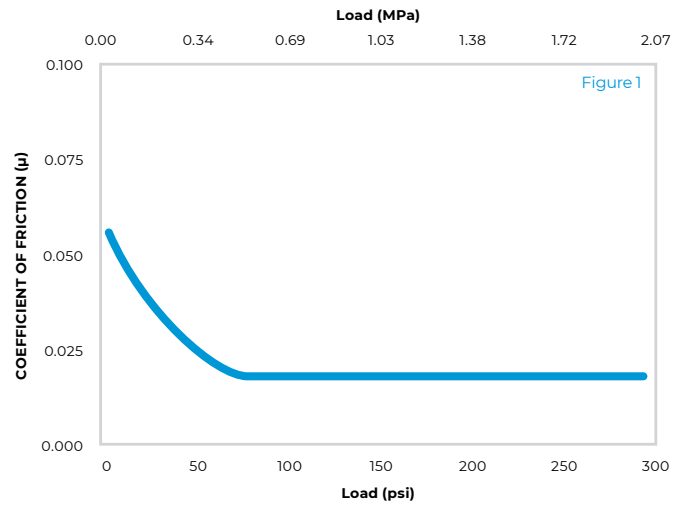
Coefficient of Friction: Coefficient of friction for Rulon® 142 material is shown in terms of sliding velocity and unit load. Results display decreasing friction rates as loads increase. As velocity exceeds 1m/min., the coefficient of friction stabilizes or decreases. After a short break-in period, friction values remain constant throughout the life of the material. Due to superior low friction characteristics under non lubricated, failure conditions, Rulon® 142 material directly improves life of machinery. Refer to Figures 1 and 2.

Wear: Wear is affected by the operating conditions of machinery using the Rulon® 142 solution. Lubrication, surface finishes, speeds, cleanliness of cutting oils and lubricating oils, and operating temperatures all affect the wear ability of this material. To ensure maximum life of this material and the mating surfaces, application and finishing instructions should be adhered.

Lubrication: Specific lubricating and cooling oils are not recommended for use with the Rulon® 142 solution. Testing shows this material and 2225 adhesive are compatible with virtually all commercially available oils. We do recommend care be used in the material's application where high sulfur based oils are being used.

Rulon® 142 Linear Bearing

PROPERTIES	ASTM	UNITS	VALUE
Specific Gravity	D792	---	3.11
Water Absorption	D570	%	0
Coefficient of Thermal Expansion	D696	in./in./°F (in./in./°C)	4.9×10^{-5} (8.8×10^{-5})
Hardness	D785	Shore D	57-67
Tensile Strength	D4894	psi (MPa)	3100 (21.4)
Elongation (Length)	D4894	%	200
Maximum PV (continuous)	---	psi x ft./min. (MPa x m/s)	10,000 (0.35)
Maximum Limiting (continuous bonded)	---	psi x ft./min. (MPa x m/s)	25,000 (0.88)



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Rulon® solution is a registered trademark.
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