Rulon® LR Bearings

For continuous, non-lubricated service, RULON® LR sleeve bearings are capable of operating at PV values up to approximately 10,000 lb. ft./inch^2 x min (0.35 MPa x m/s). Figure 3 shows wear rates as a function of time at various PV values.



Load

RULON® bearings are generally limited to 1,000 psi (6.9 MPa). However, actual deformation is a function of wall thickness, temperature and load (Figure 4). Because the thickness of the RULON® sleeve affects deformation under load, load limits can be increased by using thin wall bearings or bonding in place.

Speed

RULON® LR bearings are generally limited to 400 ft/min (2.0 m/s) under dry, low-load operation. Higher speeds are possible with lubricants or liquid coolants.

Friction

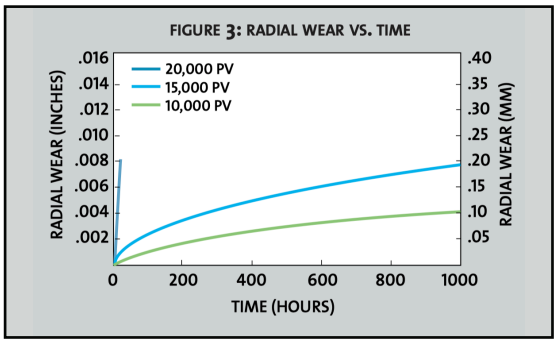
Friction decreases rapidly with increase in load (Figure 5). Figure 6 shows the effect of surface velocity on friction.

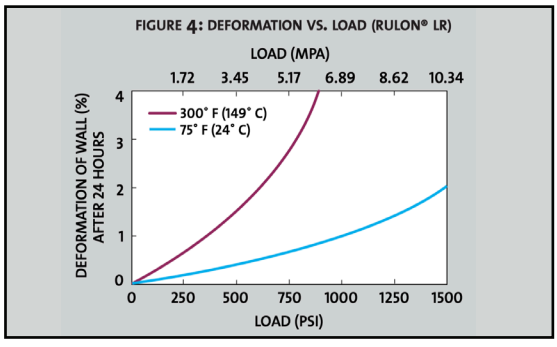
Mating Surfaces

Performance is optimized when the hardest possible running surface is used. Mild steel is acceptable. Softer shafts such as stainless steel or aluminum are not recommended. Special RULON® materials such as RULON® J – are available for this type of service.

Surface Finish

Best performance is achieved with a surface finish in the 8 to 16 RMS range (0.2 to 0.4 µm Ra). However, acceptable performance can be obtained with finishes up to 32 mircroinches (0.8 µm Ra).





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Bearing Failure
At elevated temperatures and heavy load, RULON® LR bearings will not shatter, but will merely deform. This limits sudden breakdowns and possible damage to other components.

Corrosion Resistance
RULON® LR material is practically inert to all acids, bases and solvents.

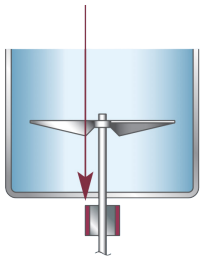
Typical Applications
For bearings in:
- Dryer oven conveyors
- Vacuum metalizing equipment
- Photographic processing equipment
- Hydraulic actuators
- Machine tool ways and gib slides

Application Case Story
Rulon® LR was selected for this application because of its lubricity and ability to withstand abrasion.

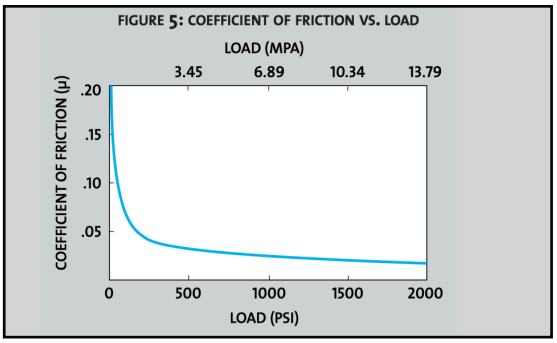
The blender is used to incorporate pumice to a hand soap mixture. Occasionally, the pumice does infiltrate the bearing area, exacerbating the wear. The Rulon® LR bushing rides on a stainless steel expendable sleeve that is pressed onto a smaller diameter shaft. When the sleeve wears excessively, it and the bushing are replaced.

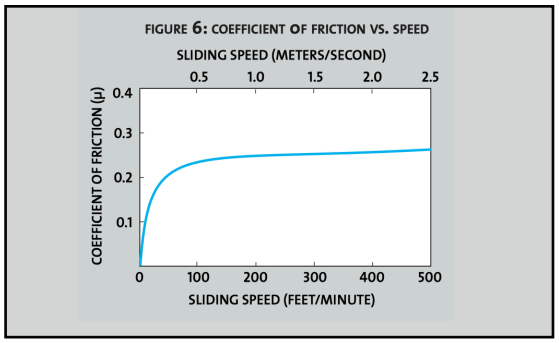


Rulon® LR Bushing



High Speed Insdustrial Blender





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