

LDK[®] Solid-Lube[®] Bearings

Solid-Lube[®] is an oil saturated, polymer material that virtually fills all of the free space in the bearing. The polymer material is molded into the bearing forming very narrow gaps around the rolling elements and raceways, enabling the bearing to rotate freely. The polymer material has a porous structure, with millions of micro-pores, that hold the lubricating oil retained by surface tension. In service, oil is released from the material into the narrow gaps between it and the bearing components, thus providing effective minimum quantity lubrication.

Solid Oil enables bearing lubrication with an even and consistent film of oil. An increase in operating temperature pushes oil toward the surface of the polymer material. This "flow" of oil within the polymer material occurs because the oil has a higher coefficient of thermal expansion than the polymer material and because the viscosity of the oil decreases with increasing temperature. During shutdown, any excess oil is reabsorbed back into the polymer material.



Benefits of Solid-Lube[®]

LDK bearings with Solid-Lube[®] are designed for use in applications where high levels of moisture and incidental contact with water and other contaminants are real issues. These bearings are also an excellent choice for applications where relubrication is impractical or dangerous.

- Operating life more than twice as long as conventional grease lubrication, in water or dust-contaminated environments.
- Grease-free property with no oil refilling reduce cost of ownership and environment impact.
- Resist washout
- Virtually eliminates oil leakage
- Protects against the ingress of the contaminants

Applications

- Steel mill equipment
- Paper mill equipment
- Food processing equipment
- Agriculture equipment
- Liquid crystal display and semiconductor manufacturing equipment
- Cleaning equipment
- Conveying equipment

Available in ball bearing, spherical roller bearing and tapered roller bearing types.