



Krytox[®]

performance lubricants

Corrugator Conversion

Read these tips first before converting from oil lubrication to Krytox[®] grease lubrication.

Before you proceed with this conversion, it is critical that you determine that the bearings have sufficient internal clearance. Contact your equipment manufacturer for engineering guidance.

Bearings that are grease lubricated have a higher differential temperature across the bearing than oil lubricated bearings. This can cause the bearing to fail if the internal clearances are not adequate. Generally, more clearance is needed, and a bearing with C-4 clearance can often be used. However, each manufacturer of machines and bearings has different specifications, and they should be consulted to avoid problems.

Both the upper and lower corrugating roll bearings and the pressure roll bearings can be converted to Krytox[®] grease. Preheater and preconditioner roll bearings can also be converted. Some older models need thrust bearings on the lower preheater before conversion can be done. Contact your Krytox[®] representative or equipment manufacturer for guidance. Any other bearings in high temperature service can also be converted to Krytox[®].

The best time to convert to Krytox[®] is at a corrugator roll change when you will be replacing the bearings. This is also the most convenient time to clean out the bearing housings.

Pack the new bearings with Krytox[®] before you put them on the shafts or into the bearing housings. Then, fill the cavity after assembly and again after the equipment has been running "hot" for one hour.

Ideally, you want to push the grease into the middle of the bearing and squeeze it out through the rollers. If that's not possible, apply the grease on one side of the bearing and relieve it from the other side to prevent trapped air.

For best results, the bearing housings should be sealed on both sides. Lip seals or multiple (preferably three) close clearance labyrinth (maximum allowable clearance between shaft and labyrinth is 0.010 in) seals may be used. If shaft to housing clearances are tight, Krytox[®] will act as a seal, but it might not be as effective or last as long as a regular seal.

Krytox[®] will seal up uneven areas or imperfections in the seals and will work for about one to four months. If there are no seals, the housing will be exposed to contamination and more frequent relubrication will be needed. After this time, regrease the bearings. Add more grease until clean grease comes out of the relief fittings. You can expect to use about half the amount you needed for the original application, or 1/2 the cartridge, when you relubricate. Rotate the roll to evenly distribute the grease in the bearing. If you are not using a button-head or pin type grease fitting, change to this style to prevent inadvertent mixing of Krytox[®] with a hydrocarbon oil-based grease. Use a dedicated grease gun with a matching fitting.

Keep all Krytox[®] grease containers covered to avoid contamination while in storage and clearly label them.

Single Facer Bearing Packing Procedure

Solvent Degrease

New bearings come with a preservative/rust preventive oil that must be removed before greasing with Krytox®.

Flush bearing with cleaning solvent, making sure all contaminants have been removed. An aliphatic hydrocarbon safety cleaner may also be used. Do not use a chlorinated solvent. Wipe, blow dry, heat, or rinse the bearing to remove any residue left by these alternative solvents. See bearing cleaning procedure for additional details.

Packing the Bearing

Provide a sufficient bead of grease to lubricate the inboard lip seal.

Pump grease around each roller while rotating the bearing to force out any trapped air. Continue rotating the bearing a second time while pumping grease to top off to 100% fill.

Put a bead of grease on the outside of the cage to provide a reserve and to lubricate the roller ends against the cage.

Smear grease on the outside of the bearing at the sliding fit to prevent fretting corrosion. Smear a thin film of grease on any self-aligning rings that may be used.

After the bearing is lubed, prepare the housing for assembly by solvent cleaning, making sure the inlet or fill port is clean. Fill the inlet with grease to prevent any air from being trapped inside. Lubricate the interior of the housing for easy assembly and lubricate the "vee cavity" (Garter spring cavity) of all lip seals.

Relubrication

For optimum results, the Krytox® should be replenished every one to four months. An amount equal to approximately one-half the original 100% fill volume should be used. Rotate the roll while adding the grease to provide even distribution in the bearing. Contact your original equipment manufacturer service representative for specific recommendations.

Additional Suggestions

O-rings can be eliminated if mating surfaces have close sliding fits (i.e., less than 0.010 in).

Lip seals can be eliminated if mating surfaces have close sliding fits (i.e., less than 0.010 in).

Lip seals can be replaced by multiple labyrinths (three is preferred) with a 1/8" x 1/8" box cavity. The maximum clearance between the shaft and the labyrinth should be 0.010 in.

Change the style of grease fitting from a surface-ball type to a button-head or pin type to ensure only Krytox® grease is used. Use a dedicated grease gun matched to the fitting.

For more information or technical assistance, visit us on the Web: www.krytox.com

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