MicroPoly®

LUBRICANTS

METAL PROCESSING FILLED BEARINGS

CASE 1: Steel coil straightener

BEARING TYPE: Spherical roller bearings, 22211

CONDITIONS: Bearings were located deep within the equipment and could not be externally lubricated. Bearing life was 6 months.

RESULTS: MicroPoly filled bearings have been running 3 years with no failures. Cost savings have been substantial. Unscheduled down time to change out a failed bearing cost $250,000.

CASE 2: Oven bearings, coating metal pipes

BEARING TYPE: Rexnord housed roller bearings

CONDITIONS: Bearings operate at 300°F. Bearing speed 80 RPM. Bearing life 2-3 weeks.

RESULTS: Bearings were filled with high temperature MicroPoly. Bearings have been running 3 months so far with no failures.

CASE 3: Billet turner bearings

BEARING TYPE: Tapered roller bearings

CONDITIONS: Billet comes out of reheat furnace and dependent on size and shape, may need to be turned 90° prior to entering mill stand for rolling. Estimated ambient temperature is 300 – 400° F and bearing life was approximately 2 months.

RESULTS: Bearings were filled with MPI-2000, high temperature MicroPoly. Bearings have been running for 9 months so far with no failures.

CASE 4: Crane wheel bearings

BEARING TYPE: Spherical and split roller bearings

CONDITIONS: Inconsistent bearing lubrication due to availability problems and safety considerations. This caused inconsistent bearing life.

RESULTS: Bearing life increased three to fourfold. Some plants totally eliminated manual lubrication.

CASE 5: Crane hook bearings

BEARING TYPE: Roller thrust bearings, about 100 mm bore

CONDITIONS: Water, scale and heat contamination, combined with limited ability to lubricate and inability to contain grease. Temperature less than 120°F.

RESULTS: Bearing life was more than doubled.

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June 2011

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CASE 6: Table roll

BEARING TYPE: Spherical roller bearings, 23124 & 22224

CONDITIONS: Water, scale and heat contamination. Bearing life 3 months. Temperature less than 120°F. Speed 120 RPM.

RESULTS: With MicroPoly, bearing life was more than doubled.

CASE 7: Wire cabling for tire cord (one to five strands)

BEARING TYPE: 6204 single row ball bearing, shielded on one side

CONDITIONS: Eccentric forces pushed grease out of bearing. Bearing life 2 hours to 7 days with conventional lubrication. Speed 1200 RPM and 2500 RPM eccentric speed.

RESULTS: Bearing life 60-70 days with MicroPoly.

CASE 8: Wet strip grinders – squeegee & brush rolls

BEARING TYPE: Rexnord ZA 2203, 2-3/16" pillow block

CONDITIONS: Water spray.

RESULTS: MicroPoly filled bearings increased life twofold.

CASE 9: Acme strip grinder-polisher

BEARING TYPE: ZA 2207, Rexnord housed roller bearings

CONDITIONS: Slow speed; ambient temperature; soapy water. Bearing life 2-3 weeks.

RESULTS: Currently getting 6 weeks life out of bearings.

CASE 10: Hot strip mill runout table rolls

BEARING TYPE: Tapered roller bearing, 7" bore

CONDITIONS: Water and heat. MicroPoly serves as a back up to an automatic lubrication system to reduce the unscheduled maintenance. Bearing life was unpredictable and inconsistent.

RESULTS: Bearings have been in use for 2 years.

CASE 11: Slab mill feeder table

BEARING TYPE: Spherical roller bearings, 23124

CONDITIONS: Water quench.

RESULTS: MicroPoly filled bearings have increased life threefold.

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CASE 12: Furnace Bearing

BEARING TYPE: Spherical roller bearing, 22226CK

CONDITIONS: Heat from furnace melted lubricant in bearing, causing melted lubricant to leak onto the steel strip. Temperature 300°F.

RESULTS: High temperature MicroPoly was installed in the bearings. The leakage problem has been solved, eliminating the need to scrap materials due to lubricant contamination.

CASE 13: Scale Conveyor

BEARING TYPE: Housed roller bearings

CONDITIONS: Conveyor removes scale from a water and scale pit. Bearing life 6 to 8 days.

RESULTS: MicroPoly filled bearings have lasted over 8 months.

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METAL PROCESSING SOLID PROFILES

CASE 14: Re-bar and angle iron, open conveyor, return guide

MICROPOLY TYPE: 1" x 2" x 12" chain lube block

CONDITIONS: Some radiant heat, less than 200°F. Previous chain guide material did not hold up and had to be replaced 3 or 4 times per year.

RESULTS: MicroPoly chain lube blocks, placed at interval spacing, reduced replacement frequency of chain guide to once per year. This resulted in saving significant material replacement and labor costs.

CASE 15: Shotblast car

MICROPOLY TYPE: Bronze bushings plugged with MicroPoly

CONDITIONS: Steel shot contamination. Life unpredictable.

RESULTS: Life increased three to fourfold with MicroPoly.

CASE 16: Shears

MICROPOLY TYPE: Bronze liners plugged with MicroPoly

CONDITIONS: Normal mill environment, lube lines were damaged. Life unpredictable.

RESULTS: Achieved 4 to 10 years life with MicroPoly.

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