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.

PhyMet, Inc. • 75 N. Pioneer Blvd. • Springboro, OH 45066
800-874-9638 • 937-743-8061 (phone) • 937-568-6743 (fax)
salesteam@micropoly.com • www.micropoly.com

PhyMet, Inc.

MicroPoly
The solid idea for lubrication

METAL PROCESSING FILLED BEARINGS

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.

PhyMet, Inc. • 75 N. Pioneer Blvd. • Springboro, OH 45066
800-874-9638 • 937-743-8061 (phone) • 937-568-6743 (fax)
salesteam@micropoly.com • www.micropoly.com

PhyMet, Inc.

MicroPoly
The solid idea for lubrication

METAL PROCESSING FILLED BEARINGS

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: Roller bearings

CONDITIONS: Conveyor removes scale for a water and scale-filled pit for a steel mill. Bearing life 6-8 days.

RESULTS: MicroPoly filled bearings lasted more than 9 months.

CASE 14: Coil car wheels

BEARING TYPE: Tapered roller bearings

CONDITIONS: Bearings are located below floor level. Grease was washed out due to high pressure cleaning of the car. Bearing life sporadic; less than one year.

RESULTS: MicroPoly filled bearings were installed. Customer discontinued monitoring after 5 years, with no bearing failures in those 5 years.
Annual savings of $20,000.

CASE 15: Scrubber line

BEARING TYPE: Spherical roller bearings

CONDITIONS: Lubricant was washed out of bearings, resulting in failure in 1 week. Failure of these bearings caused a domino effect and resulted in damage of other related equipment.

RESULTS: MicroPoly extended the life of the bearing in the scrubber line to 1-3 months. This resulted in an annual cost savings of $87,800.

CASE 16: Pipe mill – hydro tester

BEARING TYPE: Cam followers

CONDITIONS: Grease was being washed out of the rollers, causing the rollers to lock up. This caused the pipe to skid across the bearings. Bearings lasted 2 to 3 weeks. Over a 12 month period, the cam yoke rollers failed 15 times. Down time costs associated with these failures was estimated to be $1,000 per occurrence, or $15,000 annually. The roller cost per replacement was also estimated to be $1,000 per occurrence.

RESULTS: MicroPoly filled bearings were installed. Bearings have been running 18 months with no failures. After 5 months a cost savings study was done, showing $12,500 in cost savings in just the first 5 month period.

PhyMet, Inc. • 75 N. Pioneer Blvd. • Springboro, OH 45066
800-874-9638 • 937-743-8061 (phone) • 937-568-6743 (fax)
salesteam@micropoly.com • www.micropoly.com

PhyMet, Inc.

MicroPoly
The solid idea for lubrication

METAL PROCESSING SOLID PROFILES

CASE 17: 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 18: Shotblast car

MICROPOLY TYPE: Bronze bushings plugged with MicroPoly

CONDITIONS: Steel shot contamination. Life unpredictable.

RESULTS: Life increased three to fourfold with MicroPoly.

CASE 19: 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.

PhyMet, Inc. • 75 N. Pioneer Blvd. • Springboro, OH 45066
800-874-9638 • 937-743-8061 (phone) • 937-568-6743 (fax)
salesteam@micropoly.com • www.micropoly.com

PhyMet, Inc.