MicroPoly®

LUBRICANTS

MISCELLANEOUS APPLICATIONS FILLED BEARINGS

Waste Treatment Application

CASE 1: Pump impeller - sewage treatment

BEARING TYPE: Roller bearing, #23052

CONDITIONS: Sewage in oil bath.

RESULTS: Service life increased 300%, with reduced labor costs by decreasing maintenance schedule from 6 months to 18 months. The potential of contaminating local waterways with oil was reduced, helping to avoid incurring fines of $100,000 per occurrence.

Power Generating Application

CASE 2: Coal pulverizer grinding wheel

BEARING TYPE: Tapered roller bearings, HH249910/HH249949 & EE350750/EE350351

CONDITIONS: Coal dust caused bearing seizure, resulting in the dust being ignited. Bearing life 9 months.

RESULTS: Used in addition to conventional lubrication, MicroPoly has kept contaminants out of the bearings. Life of the oil bath has increased twofold and is now changed out every 6 months. Bearing life has been extended to 10 years. Maintenance related downtime has been substantially reduced, with annual cost savings of $250,000.

Wood Product Applications

CASE 3: Idler bearing in 120 roller chain sprockets in forest products machinery, slicers, feeders & bar screens

BEARING TYPE: 5208EENR, double row ball bearings

CONDITIONS: Water, chips, dust and dirt penetrated the bearings. Bearing life 4 weeks.

RESULTS: Bearing life has been extended from 4 weeks to over 4 months.

CASE 4: Baghouse dust conveyor bearings - wafer board manufacturer

BEARING TYPE: Flanged ball bearing units, 2-15/16” bore

CONDITIONS: Wood dust and atmospheric humidity. Bearings changed every 3 months. Bearings are outdoors and exposed to moisture. Speed 600 RPM.

RESULTS: Bearing life has been extended to over 1 year.

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Earth Moving Application

CASE 5: Trenching equipment

BEARING TYPE: Guide wheels and idler wheels, 22308 spherical roller bearing (axle bearing), FYRP 2-1/2" roller bearing

CONDITIONS: Trenchers run in dusty, dirty, muddy conditions. Dirt and mud are pulled up and packed into the housings around the bearings. Idler wheels and axle bearings were replaced every month. Roller bearings were replaced every 2 months.

RESULTS: Idler wheels and axle bearings filled with MicroPoly have been in service for almost a year. Life of the FYRP roller bearings was extended from 2 months to 2 years.

Cement & Ceramic Applications

CASE 6: Packer head (hydro tile) – concrete pipe manufacturer

BEARING TYPE: Fafnir 1106KKR, 1108KKR, 1203

CONDITIONS: Sand and concrete contamination. Bearings are outdoors. Bearing life 1-2 days. Speed 100 RPM.

RESULTS: Discontinued monitoring after 6 weeks. Results exceeded expectations.

CASE 7: Depalletter, telescoping section

BEARING TYPE: Needle roller bearing, 1-3/4" - GR 32 – GR 40

CONDITIONS: Concrete dust contamination. Bearing life 3-4 months. Speed 178 RPM.

RESULTS: Bearing life extended to at least 2-1/2 years.

CASE 8: Painting spindle bearing – ceramic plate manufacturer

BEARING TYPE: R6ZZ single row ball bearing

CONDITIONS: Paint and solvents contamination. Bearing life 1-2 days. Speed 5-10 RPM.

RESULTS: Bearing life has been extended to at least 30 days.

Chemical Applications

CASE 9: Dragline – vertical rotating shaft; lower bearing – fertilizer plant

BEARING TYPE: Spherical roller bearing, #22315

CONDITIONS: Dirt and gypsum contamination. Bearing life 1-1/2 months.

RESULTS: Bearing life has been extended to over 1 year.

CASE 10: Lamination line – foam plant

BEARING TYPE: McGill cam follower

CONDITIONS: Required manual greasing that involved shutting down the equipment/line for at least 5 hours. Bearing life not a primary consideration.

RESULTS: Manual greasing is no longer required. Downtime due to manual greasing has been eliminated, resulting in substantial cost savings.

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Fastener Application

CASE 11: Transfer application

BEARING TYPE: 61902 & 61903, single row ball bearings

CONDITIONS: Dirt and contaminated oil penetrated the bearings causing premature failure.

RESULTS: Bearing life has been extended threefold.

Wire Drawing Application

CASE 12: Wire drawing – bottom of wire reels

BEARING TYPE: Single row ball bearing, 6204

CONDITIONS: Fines from the copper wire were getting into the bearing, causing bearings to fail in 2 months.

RESULTS: Bearing life has been extended to 6-8 months.

Mattress Manufacturer Application

CASE 13: 4300 Gribitz sewing machine

BEARING TYPE: Cam Followers

CONDITIONS: Manual lubrication of cam followers caused grease and oil to get on the bed material. This caused staining, which resulted in loss of product.

RESULTS: MicroPoly has stopped the lubrication staining, thus eliminating the need to scrap bed material due to staining from grease and oil.

Agriculture Application

CASE 14: Disk harrow

BEARING TYPE: Pillow block

CONDITIONS: Water, dirt, and mud. Bearings are outdoors. Bearing life varies.

RESULTS: Bearing life extended at least threefold.

CASE 15: Automated mulch bagging

BEARING TYPE: 20 mm single row ball bearings

CONDITIONS: Bearings exposed to grit, moisture, and heat from bag sealers. Bearing life was 6 months.

RESULTS: Bearings were filled with MicroPoly formula MPI-0779. Bearing life extended over 18 months.

Petrochemical Application

CASE 16: Top feed roll

BEARING TYPE: Self-aligning ball bearing

CONDITIONS: Bearings were running in a wet environment. Bearing speed 1,100 RPM. Temperature 130-140°F. Bearing life 2-3 weeks.

RESULTS: MicroPoly filled bearings have been running for 3 months so far with no failures.

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Aggregate Application

CASE 17: Head & tail shaft pulleys in metal processing/mining

BEARING TYPE: Rexnord, 2-15/16" bore

CONDITIONS: Sand and water contamination. Bearing life 3 months. Speed 850 to 1370 RPM.

RESULTS: With MicroPoly, bearing life has been extended over 18 months.

CASE 18: Mineral processing, magnesite

BEARING TYPE: 4- bolt flange bearing

CONDITIONS: Heated material in screw conveyor solidifies if the process is shut down. Bearing failure due to contamination was the primary cause of the shutdown. To remove the material, the screw assembly must be removed and the material must be chiseled out. The process is lengthy and expensive. Bearing life was less than one year.

RESULTS: MicroPoly kept the contaminants out of the bearing. MicroPoly bearings lasted more than 3 years. Cost savings estimated in the tens of thousands.

CASE 19: Railroad - rail grinding machine

BEARING TYPE: Spherical insert bearing

CONDITIONS: Outdoor application. Debris from railroad rail grinding machine operation caused grease bearings to fail in 2-6 months. Since rail time for grinding is limited, down time reduces the effectiveness of the machines.

RESULTS: MicroPoly filled bearings extended the life to 2 years.

CASE 20: Manufacturer of roofing products

BEARING TYPE: Sealmaster NP 16 1-3/16"

CONDITIONS: Paper goes through the looping line where tar is applied. The tar contaminates the bearings and normal life for a greased bearing is 1 week.

RESULTS: With MicroPoly installed, the bearings were still running after 4 weeks.

Printing Applications

CASE 21: Printing press

BEARING TYPE: Needle roller bearing, HJ4055228

CONDITIONS: Too much heat generated with previous lubrication method, and a severe housekeeping problem existed. Speed up to 1200 RPM.

RESULTS: Totally eliminated housekeeping problem. Greatly improved the performance of the printing press by reducing the thermal changes in the press, due to the bearings operating at much cooler temperatures.

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MISCELLANEOUS APPLICATIONS FILLED BEARINGS

Textile Application

CASE 22: Carpet manufacturing – tufting machines

BEARING TYPE: Thrust and needle roller bearings

CONDITIONS: Oil and grease leakage stained carpet and the bearings failed after processing 1 million feet of carpet (about 2 months).

RESULTS: MicroPoly filled bearings lasted over 6 million feet (1 year and still running). Carpet staining by oil and grease was eliminated.

Paper Processing

CASE 23: Winder for mandrel on paper converter

BEARING TYPE: 1204ETN9, double row ball bearings

CONDITIONS: Abrasive tissue and paper dust locked up the bearings. Heavy loads; roll is as big as a car. Bearing life 2.5 months.

RESULTS: MicroPoly keeps the contamination out of bearings. Bearing life extended to 1 year.

CASE 24: Idler rolls on paper converted for tissue and towels

BEARING TYPE: 6203 and 6205, single row ball bearings

CONDITIONS: Abrasive tissue paper and dust contaminate the bearings, causing premature failure. Bearing life 1 month.

RESULTS: MicroPoly kept the contamination out of bearings. Bearing life extended to 1 year.

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MISCELLANEOUS APPLICATIONS SOLID PROFILES

Plastic Application

CASE 25: Chain guide for "puller block" in conjunction with extruder

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

CONDITIONS: Frictional heat on expensive profiled UHMW chain guide caused softening of guide and replacement of 40 blocks, 2 or 3 times per year.

RESULTS: Customer cuts MicroPoly blocks into 6" lengths and machines sides down to provide two raised shoulders. MicroPoly has doubled the life of the UHMW. Change out on the guides had cost customer $500 per block. 40 blocks x 2 changes per year saved $20,000.

Aggregate Application

CASE 26: Trunion scrubber for asphalt

MICROPOLY: Solid profile installed in metal plate

CONDITIONS: The surfaces had to be greased daily and, if not, metal would wear out and cause trunion to track off and shove bearings out of their housings.

RESULTS: MicroPoly has been installed 3 months. No additional lubrication needed. Labor savings has been substantial.

Furniture Manufacturing Application

CASE 27: Wood board conveyor

MICROPOLY: Conveyor chain lubrication, #80 chain, 50' long, and 24' center distance with 8" sprockets

CONDITIONS: Chain moves 1 revolution every 2 minutes. Manual greasing of chain required every 4 weeks. This manual greasing contaminated the boards and dripped grease onto the floor, creating safety and housekeeping problems.

RESULTS: MicroPoly blocks have been in place more than 6 years. Manual greasing has been eliminated, thus, solving the safety and housekeeping problems.

Waste Treatment Application

CASE 28: Sludge life chain

MICROPOLY: MicroPoly 1" x 2" x 8" lubrication block is used to lubricate conveyor chain

CONDITIONS: Water and dirt get into pins. Chain life is very short. Application is indoors.

RESULTS: Results are very good. All conveyor chains are now lubricated in this manner.

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