THE IMPORTANCE OF KILN TIRE LUBRICATION
Filler Bar Maintenance

Filler Bars / Wear Pads:

- Filler bars are integral to kiln shell life.
- Filler bars are a sacrificial component that are designed to be maintained and then replaced.
- Properly maintained they allow the riding ring and shell to operate with close diametrical clearances (Creep) at normal operating conditions.
- Excessive wear can produce high ovality conditions which can lead to refractory loss and shell deformation.
Creep Importance

Creep (Diametrical Clearance):

- The kiln shell is smaller than the riding ring therefore during one complete rotation of the shell, the ring will rotate slightly less than one full rotation.

- Excessive creep is an indication of high diametrical clearance; filler bars or ID of the riding ring have worn enough to allow this extra rotation, or the operating temperature is substantially different from predicted (~1.0” + time to plan for maintenance).

- Creep measurements should be monitored for each riding ring.

- Maintaining the diametrical clearance (Creep) will minimize ovality, save bricks and reduce maintenance costs.
Retaining Block Maintenance

Retaining Blocks:

- Retaining Blocks limit the movement of the tire as it travels back and forth on the trunnion rollers. As the tire rubs against the stop blocks wear occurs. A tire that is thrusting against the stop blocks will wear and cause damage.

- Without attention, the retaining blocks will break and require replacing.
Who Is

• 30 Plus Years of Experience in Industrial Lubricants
• Industries served: Cement, Pulp & Paper, Chemicals & Minerals, Lime, Beverage
• Alan Lockett – President & Founder since 1988
  • Lockett is a licensed Certified Lubrication Specialist
  • Member of Institute of Electrical and Electronics Engineers
  • Member Society of Tribologists and Lubrication Engineers
  • Lockett has two U.S. and International lubricant patents
  • Author of “Keep the Kiln Running!” article in WORLD CEMENT magazine (1/08)
• Easy Bar® was developed through interactions with plant personnel and created to provide a safer and more effective lubricant alternative.
What is EASY BAR®?

EASY BAR® is a solid lubricant bar that melts when placed on the hot surface of a kiln shell. EASY BAR®’s patented blend of mineral and metal lubricants are suspended in a solid polymer binder that melts at approximately 120° F or 49° C.

When placed between the tire bore and kiln shell, the binder begins to melt and releases the lubricants in EASY BAR®. The rolling action of the kiln distributes the lubricants precisely to the areas needed while the binder completely evaporates.
How EASY BAR® Works?

Easy Bar® high solids-content of graphite and copper coats the kiln’s tire & filler bars, filling-in the surface imperfections. This results in smoother bore surfaces, lower friction and less wear.

The improved lubrication between filler bars and riding rings reduces weld fractures at filler bars and kiln shell interface. This wear reduction helps maintain creep while also contributes to extended shell life and refractory service.
EASY BAR®
Rotary Kiln Tire Bore Lubricant

- Extend Filler Bar Life by 50%. Easy Bar®’s “coating” protects the kiln tire and stop blocks while eliminating breakage of filler bar welds.

- No Residue! Easy Bar® patented binder completely evaporates leaving no sticky residue on the kiln shell that could collect debris and create additional wear and tear.

- Slows Shell Ovality & Lengthens Refractory Life! Easy Bar® maintains creep by reducing friction and wear between contact surfaces. Maintained wear pads and creep can minimize possible ovality thus lengthen refractory life.
EASY BAR®
Rotary Kiln Tire Bore Lubricant

- No Flame Ups!  Auto-ignition point +1000F / 538C (the highest auto-ignite temp among lube bars)

- Quick and Simple!  No mixing or preparation time needed.

- 45-60 Second Application Time!  Once a week application minimizes oiler's exposure to the hostile kiln environment.

- Reduces Annual Maintenance Costs!  Reduces the wear of key components of the rotary kiln. Less wear = Less repair
When To Use EASY BAR®?

- **Start-Ups:** Provides critical lubrication during thermal expansion as kiln shell expands.
- **Weekly During Operation:** Weekly application use will maintain creep, minimize weld fractures, lengthen filler bar life while greatly reducing tire bore gouging.
- **Shut Downs:** Provides critical lubrication during the contraction of the kiln shell.
Easy Bar® Application Methods

Courtesy of Carmeuse Lime-Annville
Easy Bar® SP
Portable Application Methods

Pneumatic Applicator Gun: (Product Code: 25-T)

- Plant Air of 90-100 PSI Required
- Lance Length TBD per Clients Request (36” standard)

3 Foot Lance Keeps Oiler Away from Pinch Points and Hazards.

EASY BAR SP will Safely Lubricate:
* Inside Tire Bore
* Stop Blocks / Retaining Blocks
Easy Bar® SP

Portable Application Methods

Battery-Powered 18V Applicator Gun: (Product Code: 25-T)

- 2 Batteries / Recharger
- 27 grease cartridges per battery charge
- 8,000 psi (552 bar)
- Easy to prime at low temperature
- Lance Length (24” standard)
## Lubrication Methods for Maintenance

<table>
<thead>
<tr>
<th></th>
<th>Easy Bar®</th>
<th>Easy Bar® SP</th>
<th>Melting Lube Bars</th>
<th>Water/Oil + Graphite Spray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent (%) Lubricant Composition</td>
<td>100%</td>
<td>100%</td>
<td>10-15%</td>
<td>1-5%</td>
</tr>
<tr>
<td>Graphite Composition</td>
<td>35-40%</td>
<td>25-30%</td>
<td>1-9%</td>
<td>1-5%</td>
</tr>
<tr>
<td>Auto-Ignition Point</td>
<td>+1000 F + 538 C</td>
<td>+1000 F + 538 C</td>
<td>~500-750 F</td>
<td>~260-399 C</td>
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<tr>
<td>Blow-Back Hazard or Fire Hazard</td>
<td>NONE</td>
<td>NONE</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Tacky or Sticky Residue After Application</td>
<td>NONE</td>
<td>NONE</td>
<td>YES (Creates Wear Concern)</td>
<td>YES (Creates Wear Concern)</td>
</tr>
<tr>
<td>Applications per Week</td>
<td>One</td>
<td>One</td>
<td>Multiple</td>
<td>Every Other Day</td>
</tr>
<tr>
<td>Time Required per Application per Tire</td>
<td>&lt; 1 Minute</td>
<td>&lt; 1 Minute</td>
<td>&gt;2+ Minutes</td>
<td>20-30 Minutes</td>
</tr>
<tr>
<td>Recommend Weekly Application</td>
<td>2 to 4</td>
<td>32 ounces</td>
<td>8 to 20</td>
<td>Several Gallons</td>
</tr>
</tbody>
</table>
WORKER SAFETY PRIORITY #1

- **Access of Application Points**
  - Good Footing
  - Avoid Pinch Points,
  - Objects Welded to Kiln
  - Kiln RPM

- **Gloves at All Times:** Easy Bar® will begin to melt at 118F

- **Binder Vaporization:** At higher kiln shell temperatures, Easy Bar’s patented binder will vaporize resembling white smoke. This vapor will last 5-10 minutes and dissipate into the air. Should vaporization occur, leave the area to avoid prolonged contact.
Testimonials

R&D Manager at ZMP Industry Machine Engineering
"I can recommend this product with confidence. This is an indispensable tool for modern maintenance of the rotary kilns. Safe and easy to use, if you want to extend life of your kiln's tyres try it."

Graymont Lime Engineer
"At first glance, they appear to be a good quality product and I was glad to see they didn’t flame up on our firing end of the kiln. I think this is something that will work very well in our application."
CEPSA – Engineer Service & Reliability

“Easy Bar SP is working well and did help us improving our rotary dryer reliability. One month after we started using it, we could already notice a significant reduction of the shim plates and tires ID galling problem. We are using Applicator Gun 25-T. This tool allows us to SAFELY re-lubricate often enough to maintain our dryer in good condition without having to stop it. Doing so, it has solved one of our reliability problems (galling) without creating any difficulties for the production department. Using the air spray lube gun, we manage to direct the grease in the right areas even if we have to stand at least 6 feet away from the rotating components.”
START PROTECTING YOUR EQUIPMENT TODAY!

- Increase the production life of your Wear Pads, Stop Blocks and Tires.
- Less Wear results in Less Repair!
- Reduce employee’s exposure to hostile kiln environments to < 1 min.
- 100% Lubricant Composition. No Auto-Ignition Hazard. No detrimental waxes or fillers that could collect debris on the tire bore surface causing wear.
- Most Cost-Effective Product: Just 2-4 Easy Bar® or 32 ounces of Easy Bar® SP per tire, once a week.