



Precoat Continuous Cleaner Optimization & Technology Improvements in Lime Mud Precoat Filters

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Precoat Continuous Cleaner

- Purpose of the lime mud filter
 - Remove liquid from lime mud for entry into the kiln
 - Remove soda and non-process elements from lime mud
- Problems with lime mud filter operation
 - Overtime, the precoat becomes plugged with fines and non-process elements. When this happens, discharge solids decrease, vat level rises, and soda carryover increases
 - Without a Precoat Continuous Cleaner, to return to optimal operating conditions: the filter must be stopped, drop precoat sheet, and start a new fresh sheet of lime mud. This stops flow of lime mud to the kiln



Precoat Continuous Cleaner

- Purpose & Function of the Precoat Continuous Cleaner
 - Use water spray to continuously renew the pre-coat while the lime mud filter continues normal operation
- Components
 - Nozzles
 - Beam or Shower Bar
 - Splash Guards
 - Drive system
 - Pump skid
 - Control system
- Benefits:
 - Continuous mud flow to kiln for stable operation
 - Raise mud solids (typically 1.5-2%): reduced burner fuel consumption
 - Totally reduced sulfur (TRS) reduction



Precoat Continuous Cleaner Optimization

- Optimum control when the vat level is maintained without variation indefinitely. Typically when precoat renewal rate is $\frac{1}{4}$ precoat blinding time, or approx. 2-3 hours
- Potential control variables for most Precoat Continuous Cleaner systems:
 - Water Pressure
 - Nozzle Speed
 - Time in Medium Pressure Mode or High Pressure Mode
- Potential control variables for most lime mud filters (In general, the variables that increase the discharge % dry solids will decrease the life of the precoat):
 - Drum speed
 - Lime mud % feed solids
 - Precoat thickness
 - Shower water quantity and distribution
 - Lime mud slurry feed & shower water temperatures



Lime Mud Precoat Filters Technology Improvement

- Round Drum (TIR = 3/16") & Straight Blade allow for Overall Thinner Precoat
- Vacuum Distribution – Multiple Inlets per section, High Grid Legs, Even Across Face of Drum, Leading & Trailing Edge Drainage
- Large Pipes with Less Elbows – Lower Velocity & Less Erosion
- Bearings & Drive Capable of 3-4 rpm



Lime Mud Precoat Filters Technology Improvement

- Vacuum breakers / Tell-tale Siphons
- Sturdy Construction
- Bolt-on Drive Shaft & Trunnion
- Precoat Continuous Cleaner