



Pre-coat and Body Feed

Background:

Pre-coat and body feed are two related applications. Both of these special applications use diatomaceous earth (commonly known as D.E.), cellulose, Perlite or Fly Ash, as a filtering aid when the solids in a slurry are extremely fine and free-filtering. The filtering aid helps trap the fine solids that otherwise might flow through the filter cloth. The processes of pre-coat and body feed increase the clarity of the filtrate, provide for higher flow rates, more consistent runs, shorter cycles, dryer cakes, better cake release, and help protect and increase the life of the filter cloth.

The pre-coat process is performed before the slurry is pumped to the press. The filter aid, mixed with water and held in a separate tank, is pumped into the press where it coats the filter cloths. The filter aid rather than the filter cloths becomes your initial filter media.

Filter Aid Requirements:

Dosage rate: 0.1 lbs/square ft. filtration area.

Pre-coat feed rate: 0.25 to 0.5 gal/min./square ft. of filtration area.

Pre-coat tank size: approximately 1.5 times the holding capacity of the filter press.

Press discharge manifold preferably should be "uniform-fill" type.

Procedure:

- Start pre-coat feed pump
- Turn off pre-coat pump as soon as the tank runs clear.
- Start the slurry feed pump and switch the valves on slurry and pre-coat lines immediately to prevent a pressure drop.
****Flow must not be interrupted or the pre-coat will fall to the bottom of the chamber****
- Complete the filtration cycle.

Caution: Do not interrupt the flow to the filter press at any time during the pre-coat or during the feed cycle.

Body feed works in much the same manner as pre-coat. Body feed, however, takes place throughout the entire filtration cycle. As in pre-coat, the filter aid is held in a separate tank, but instead of pumping it through the press prior to filtration, the filter aid is metered continuously into the slurry line. Body feed dosage will vary with the quantity of suspended solids and filtration characteristics of the suspended solids that must be removed. As a general rule, 1 - 3 lbs. of D.E. body feed will be required per lb. of suspended solids to be removed.