CELLULOSE FILTER AID
FOR GOLD RECOVERY

Gold Recovery

Pre-co-Floc® Cellulose

The advantages of using Pre-Co-Floc cellulose filter aids in the Merrill-Crowe process.

- **Increased throughput** on the clarifiers and the filter presses.
- **No adverse effects** to filtration when using organic antiscale agents. Normal filter cycles with cellulose versus extremely short cycles with DE or Perlite.
- **Shorter precoat times** increases the number of cycles per day.
- **Improved clarifier stability** reduces the tendency of cake upsets and bleedthrough.
- **Improved cake release** at the end of clarifier and filter press cycles (especially in the case of the latter).
- **Drier cakes** out of the filter presser resulting in energy cost savings in the calcining or retort step.
- **Total elimination of filter aid** in the calciners/ retort ovens. The cellulose burns off completely leaving no ash. (Gassing issues must be addressed).
- **Reduced drying time** in the calcining/retort ovens, significantly reducing energy consumption and improved calciner yields.
- **Less wear** on equipment used to break up calcined cake prior to addition of the oxidizing chemicals. Less wear on filtration equipment, pumps and piping.
- **More controlled chemistry** when adding oxidizing agents. Eliminates inconsistent SiO2 and soda ash levels and reduces impurities originating from DE filter aids.
- **Improved arc furnace yields and gold recovery** with the elimination of slag from DE or Perlite.
- **Non-hazardous product** with no health concerns when working with the filter aid.

The Merrill - Crowe Process

Diatomaceous Earth (DE) or Perlite have historically been used as the filter aid of choice. However, Pre-Co-Floc® organic filter aids offer many advantages over DE or Perlite.

The Merrill-Crowe gold recovery process removes precious metals from a cyanide solution by zinc precipitation.

The Merrill-Crowe process is more applicable to gold ore with a high silver and copper content. Improved silver recovery can be obtained with the Merrill-Crowe process versus the Carbon Adsorption process.

The Merrill-Crowe process has three basic steps:

1. De-aeration to prevent gold from re-dissolving.
2. Zinc dust precipitation.
3. Filtration. Solids are filtered and eventually smelted into gold bullion bars

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Pre-co-Floc is a highly purified α-cellulose powder produced for use in gold mining recovery utilizing the Merrill-Crowe process.

ADVANTAGES

- Low wet cake density with lower consumption by weight when compared to DE.
- Low bulk density for higher pore volume and high retention capacity.
- Uniform fiber structure, length and diameter for constant permeability and performance.
- Low ion content with no influence on filtrate quality. No precipitation of precious metals in the cellulose filter aids.
- Fibrous structure for comparable clarity and high filtration efficiency like DE.
- Excellent cake release.
- Chemical resistance within pH range 1-12.

RECOMMENDATION

- 0.10 - 0.15 lb/ft^2 on leaf filters
- 0.20 - 0.30 lb/ft^2 on candle filters

In case of body feeding 0.1 - 0.15% is recommended (depending the liquor quality)

PACKAGING

Pre-Co-Floc PB200M is packed in:
- 50lb bags with 21 bags on each pallet
- 1000lb bags with 2000lb on each pallet

SPECIFICATION
PRE-CO-FLOC® PB200M

Cellulose Content	Approx. 99.5%
Ash Content	Approx. 0.3%
Bulk Density	190 - 200 g/l
Wet Cake Density	190 - 220 g/l
Average Fiber Length	60 µ
Average Fiber Diameter	20 µ
pH Value	6 +/- 1

Pre-Co-Floc® PB200M is suitable for use on candle filters, pressure leaf filters and filter presses.

Depending on the application requirements we may recommend Pre-Co-Floc PB200M, Pre-Co-Floc PB100M (120 µ fiber length) or Pre-Co-Floc PB300M (30 µ fiber length).

Please ask for a laboratory sample or for further technical assistance.

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