In the Limelight: Starch Kitchen

In only eight years, the FlexaMix™ has become the fastest-selling starch kitchen globally, with more than 235 sold. Its high-quality construction and innovative technology is sought after by corrugator plants seeking to produce superior starch adhesive. Introduced to the North American market at SuperCorr Expo 2012, the FlexaMix represents the first technological advancement in the American starch kitchen market since the advent of high-shear mixing almost 20 years ago.

Corrugator plants in the U.S. have long relied on high-shear mixers using the Stein-Hall method to produce starch. While familiar, this method has many shortcomings, including:

- Poor bonding on recycled paper.
- Reliance on costly starch additives/carrier starches.
- Viscosity stability.
- Painstaking reformulations.
- Necessity of fresh starch adhesive.

The FlexaMix represents a paradigm shift. Due to a redesign of the mixing tank and a patent-pending, inline viscometer, the mixing tank itself becomes a giant Stein-Hall cup. The viscosity is measured throughout the batch and is displayed in real time on the HMI. The plant operator can preset the desired viscosity into the formula and achieve that value consistently, batch-to-batch. It is important to note the viscometer is not mechanical. Featuring no moving parts, it does not provide false readings; it is designed specifically for starch adhesive.

This viscosity control grants corrugator plants the opportunity to move away from the Stein-Hall method of producing starch. The FlexaMix allows for caustic to be accurately metered into the secondary portion of the batch.

The resultant starch, named "Hybrid-Mix" starch, is a blend of Stein-Hall and the European No-Carrier, taking the best attributes of both.

Using a smaller primary than Stein-Hall (for green tack), then adding caustic into the secondary, swells all starch particles uniformly. This secondary provides the best attributes of No-Carrier, namely its excellent bond with recycled paper fibers. The long-standing need for cost-adding starch additives to enhance bond is eliminated.

The main property of Hybrid-Mix is starch uniformity. The starch adhesive is very stable, granting longer storage times (at lower temperatures), without degradation. The concept of having to make small batches of "fresh" starch is a thing of the past, due to no longer producing Stein-Hall starch, which by its nature, is unstable and falls out over time. A corrugator plant can increase efficiency by making a batch on Friday night and start-up Monday with it.

Because the FlexaMix is able to custom formulate solids and particle size, the operator can create the ideal starch adhesive for whatever paper types he is running. This control allows for high pin numbers while running lower solids formulas.

In addition, due to its ability to automatically adjust the starch formulation in real time, the FlexaMix is able to use untreated corrugator and flexo wash water. Starting pH and solids are rendered irrelevant. Corrugator plants can further increase their environmental sustainability while realizing savings from not treating water.

The only ingredients ever required for the FlexaMix are:

- Water (fresh or untreated)
- Unmodified pearl starch (of any kind)
- Caustic
- Boric Acid

Training personnel and maintenance on the FlexaMix are simple, as all components are of high quality and familiar to U.S. corrugator plant operators. With significant annual savings, the FlexaMix payback period is typically under one year. **PBP**

For more information, visit www.flexamix.com or call 619-423-9943.