



Applications for High Shear Mixers
Dispersion of Isinglass Finings



Applications for Isinglass in Brewing

All lager-type beers use a “bottom fermenting” yeast during fermentation, requiring the yeast to sink and settle on the bottom of the vessel. The vessels sit for long periods of time in storage while waiting for the yeast to fall, developing a demand for methods to accelerate the process. Clarifying agents such as isinglass finings are an effective tool to assist in yeast bottoming. When mixed with the liquor, the finings attach and add to the overall mass of the yeast particles, weighing them down and causing them to sink faster.

Isinglass finings come in multiple forms, including:

- Ready-to-use liquid
- Concentrated liquid
- Powder
- Dried flocculated particles
- Freeze-dried powder/granules

Mixing Process

Ready-to-use liquid may be mixed with the liquor without any preparation. Isinglass finings in the form of a concentrated liquid, powder, or granules are prepared as a solution prior to mixing with the liquor. Preparation of the solution using a traditional agitator is as follows:

- The vessel is charged with the base fluid, water, and the agitator is started.
- The isinglass is gradually added to the vessel.
- Mixing continues until the isinglass is hydrated. The solution concentration may be modified to achieve a desired viscosity.

Mixing Issues

Traditional methods of preparing an isinglass solution carry multiple issues:

- Low density of isinglass powder generates dusting problems. These are further instigated by the vigorous mixing required by agitators.
- Agitators struggle to reach the potential full yield.
- Agglomerates of partially hydrated isinglass form a sediment on the walls of the vessel
- Agglomerated isinglass is difficult to wet out and tends to float.
- Complete hydration takes long periods of time.

Our Solution

Dispersion: Instead of slowly stirring the mixture until it is homogeneous, Coramix mixers use high-shear and mechanical design to disperse the isinglass, greatly reducing each batch's cycle time while eliminating any agglomerates.

Phase 1: The Coramix inline mixer is connected with the eductor assembly, as well as pipes from the tank outlet to the mixer inlet and from the mixer outlet to the top of the tank. Base fluid is added to the tank, and the mixer is started to recirculate the fluid.

Phase 2: The powder feed valve is opened, and isinglass is added directly into the hopper. The inline mixer pulls in the powder or granules and deagglomerates them as they pass through the high shear mixing zone.

Phase 3: After all of the isinglass is added, the valve is shut and mixing continues while additional ingredients are added.

Advantages

Coramix mixers offer a solution to traditional agitators:

- Agglomerate-free mix prevents sedimentation.
- Rapid mixing generates a vortex to pull in the isinglass powder, preventing floating and reducing dust emissions.
- Drastically reduced mixing times.
- Reduced particle sizes create a stable solution and assist in hydration.
- Significantly better yields, cutting raw material costs.
- No need for extended soaking.



Contact: For more information on Coramix products go to Coramix.com, or contact our sales team at Sales@Coramix.com for help in configuring a mixer to fit your needs.