

NEW PROCESSING TECHNOLOGY FOR ICINGS AND FROSTINGS

The great variety of icings and frosting available on the market today, including glazes, fondues and ready to spread icings all require the same basic method of preparation.

Precise mixing of several dry ingredients followed by the incorporation and dispersion of shortening, vegetable oil and water is required to produce a product with consistent density, uniformity and shelf stability.

Littleford Day has drawn upon its process technology and advanced Ploughshare® mix action to develop a vastly superior system to manufacture this wide variety of icings and frostings.

The unique mix action developed by the Littleford Day Ploughshare® Mixer assures a rapid and complete mixing of the products in minimal cycle times. This action is developed by the turning of plow-shaped mixing tools at a speed sufficient to cause the materials of mix to become a pulsating, mechanically fluidized bed. The basic plow mix action is supplemented by high speed, high shear chopping devices that are mounted between adjacent plows. This aggressive mixing combination allows the ingredients to be thoroughly and efficiently mixed. Since the high shear chopping

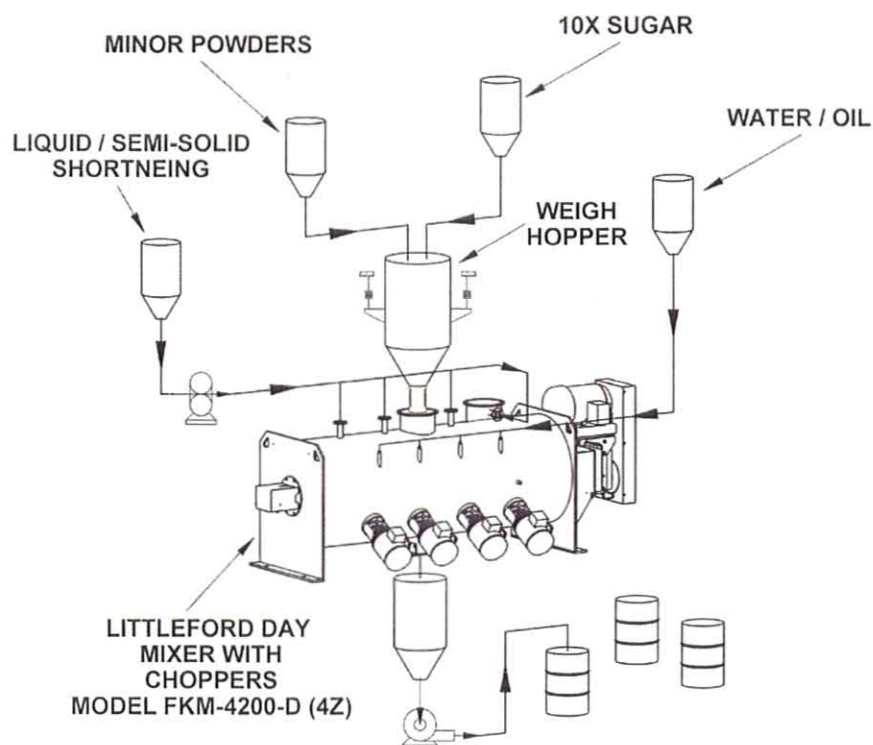
devices can be operated independent of the plows, there is little chance of overworking the mix.

With certain products that may require some heating or cooling, the Littleford Day Ploughshare® Mixer can be equipped with a highly efficient ASME Code heat transfer jacket. The Littleford Day Ploughshare® Mixer, specifically engineered to maximize heat transfer, yields heat transfer coefficients that are many times higher than those of traditional units.

A typical mixing cycle for icing is as follows:

1. Charge powders into the static mixer.
2. Start plows and choppers.
3. Add solid shortening via the stack or via pressure feeding equipment; add liquid shortening via liquid lances.
4. Following the shortening addition, continue plows only (no chopper) to develop the necessary product texture and density.
5. Discharge to packing line or into suitable containers.

Cycle times for icing batches range from 15 minutes up to an hour, depending upon the size of the mixer and the density specification objective.



We have found that the advanced Littleford Day process will result in:

1. Improved product uniformity.
2. Controlled temperatures through effective / optimum heat transfer.
3. Improved production rates.
4. Consistent density.
5. Improved shelf stability.

The production of all Littleford Day processing equipment for the Bakery Industry begins with engineering quality, performance, and reliability into every order. This is accomplished utilizing advanced engineering technologies including Finite Element Analysis (FEA), and state-of-the-art three dimensional Computer Aided Design (CAD), integrated with Computer Aided Manufacturing (CAM) and Computer Aided Engineering (CAE).

All Bakery equipment is routinely manufactured in accordance with "GMP". It can be specified to meet or exceed all of the sanitary regulations as detailed by the FDA, 3A, USDA and the Bakery Industry. This makes Littleford Day equipment the best Bakery equipment on the market today.

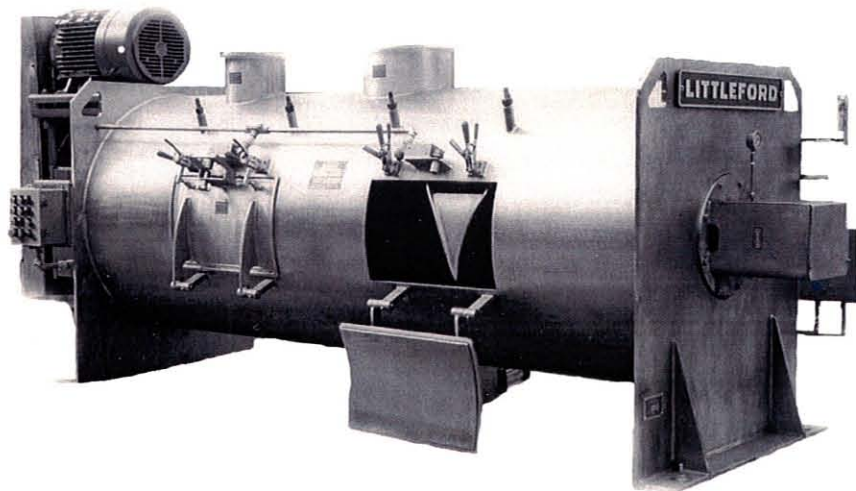
We ask customers to bring their raw materials to our facility and put our claims to the "test".

Littleford Day offers an advanced Process Development and Testing Center at its headquarters in Florence, Kentucky. The center is staffed by engineers, chemists and technologists. They have the expertise to understand specific processing requirements for a wide range of industries. They can readily develop solutions to meet customers' needs.

Equipment available at the Test Center includes mixers, dryers, reactors, granulators, intensive mixers/coolers and such support equipment as filtering and vacuum systems.

Littleford Day recommends a minimum of one full day for the typical test program. The testing program allows the customer to observe the mixing procedure and discuss possible scale-up issues. A confidential, detailed test report is also provided so customers can analyze the results of their test program.

Proven Littleford Day technology has been applied to numerous complex and difficult applications in the Food, Pharmaceutical, Nutraceutical and Biotechnical Industries. The Littleford Day Ploughshare® Mixer is available in a variety of sizes to meet most production requirements. Littleford Day can interface its system controls with existing equipment or supply fully automated process control systems.



For a free brochure or a detailed discussion, contact us at:

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Littleford Day
Where Processing Ideas Become Reality

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