

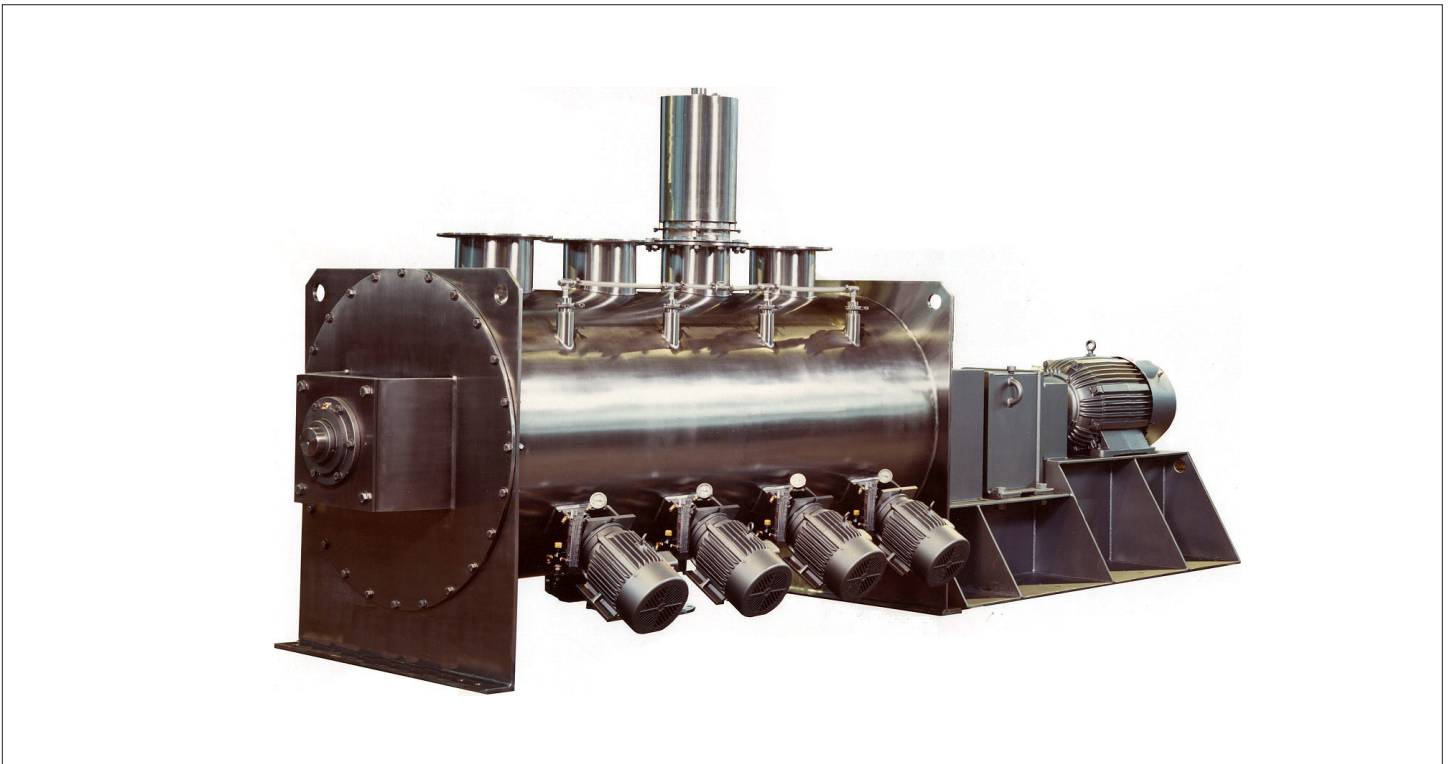


Processall equipment is suitable for microencapsulation of different products in the same machine without the use of high temperatures and excessive energy consumption. The material to be coated is called the core or fill. The coating material is called the shell or wall material. This deposition can be single or more layers of different thickness.

Other coating techniques deposit one or more layers of different thicknesses using a spray dryer. These are very costly to maintain and operate due to the energy required to dry a liquid slurry and the large space necessary for this style of equipment. Also, it is possible to lose certain low boiling liquids when encapsulating heat-sensitive materials and other degradable ingredients using this method.

The Processall coating technology completely solves these issues by coating the dry core material with atomized layers of product dissolved in a solvent or water, mixed with binders such as cellulose derivatives, dextrans, emulsifiers, protein derivatives, starch derivatives, clay, lime or other chemicals. The product is tumbled to allow even distribution of coating. Other dry powders can be deposited continuously as the coating layers are added. A drying step can follow to quickly flash off the moisture under vacuum to maintain a low temperature processing and avoid product degradation.

Duracell-300HL Mixmill





Typical Applications:

- Enhance stability of flavors and spices and improve resistance to oxidation and clumping.
- Improve solubility and flowability of natural colors.
- Sweeteners can be protected from moisture exposure to prolong sweetness perception.
- Ingredients can be protected against high temperature exposure during baking.
- Sodium chloride can be encapsulated with hydrogenated vegetable oil to prevent color degradation, rancidity, water absorption, and yeast growth.
- Vitamins and minerals can be coated.
- Chemicals and powders can be coated to enhance flow-ability and protect against environmental exposure.

The microencapsulation is generally needed for the following reasons:

- Stabilize core material
- Protect sensitive core material and improve flow properties
- Control rate of core release if this feature is required
- Mask or preserve flavors and aromas
- Protect leaching of core material to the environment

There are many additional applications for this technology. For more information, contact Processall and send your product for testing at Processall's fully equipped lab. We also offer a fleet of rental equipment for in-house product testing.