Equipment Application Card – Wax Emulsions

Sonic CORPORATION

The Sonolator™
High-Pressure Ultrasonic Mixing and Homogenizing Systems

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Sonic's Sonolator high-pressure homogenizing systems and RotoMill Colloid Mills have been widely used to form wax emulsions. In molten form, wax can be effectively emulsified into water with surfactants and fillers. Wax emulsions are used in the formation of boxboard, paper, paperboard, insulating and particle board, and fruit coatings to extend and preserve the life of these items and to impart special traits such as water repellency, increase gloss, and improve flexibility. Typical waxes used to form emulsions with water include paraffin, microcrystalline, and polyethylene wax. These waxes differ in color, purity, oil content and refractive index.

Our Sonolator systems use a PD pump to force the wax premix through a specially engineered Orifice, generating high pressure and cavitation. The mix then exits the Orifice at extremely high velocity (>300 ft/sec), striking a Blade in its path that helps generate excessive cavitation. The fluid acceleration, cavitation and pressure work together to dramatically reduce agglomerates, thereby improving product stability and appearance. Our RotoMill Colloid Mill is also used to reduce particles and create stable wax emulsions. The choice between these types of equipment depends on viscosity, cost, production rates, etc. Both Sonolator and Colloid Mills can be optimized to cope with the pitfalls that waxes often bring in way of solidification. our systems have been designed with heat tracing, heating plenums, and feed pumps to help alleviate such issues.

Call Sonic to discuss your application needs further. We offer Complimentary Lab Testing so you can see how well our Sonolator will work for you!