

Aseptic Processing of Liquid Particulate foods: A bench scale approach

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The achievement of the target sterilization value during aseptic processing of liquid particulate foods is controlled by the residence time in the holding tube and the temperature profile at the center of the critical particle. Establishing of a methodology for accurately calculating the residence time distribution and the temperature profile of moving particles inside a holding tube is challenging. The objective of this work was to develop a bench scale approach of inserting particles in a moving liquid using 2 inch seamless stainless-steel tubes to carry out residence time and heat transfer studies. The by-pass type particle injection apparatus was connected to a transparent acrylic holding tube. Simulated particles were developed in such a way that they were conservative in both flow and thermal properties, such that it will move faster and heat slower than any food particle in the system.