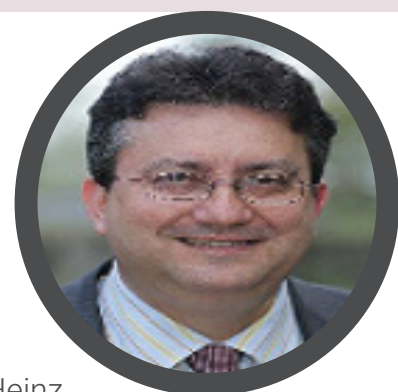


OHMIC HEATING: RECENT TECHNOLOGY IMPROVEMENT AND OVERVIEW OF LATEST APPLICATIONS WITH ASEPTIC PACKAGING

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Ohmic heating offers a valid alternative to conventional heating, especially for product with big particulates (up to 30 mm), because it simultaneously heats both phases by internal energy generated through electrical energy. In this process, heating rate depends upon the electrical conductivity and field strength. This technique grants a minimum structural damage to a product, which retains its nutritional value and gives excellent processed quality products in minimum operating time, as for HTST process - High Temperature Short Time. This technology was facing several issues during application in terms of process control (appropriate temperature increase control, electrical arc generation, possible burning of product, etc.): those issues discouraged food technologist and technician to promote this technology and, to date, some preconceptions still be present and often become an obstacle for a deep evaluation and adoption of Ohmic heating. The aim of this work is to demonstrate how the problems on this technology were fixed, thanks to the determination from an Italian company, focusing on electrode geometry, application of high frequency, modularity of the equipment and software control; also, the presentation will make an excursus and provide an overview of the most recent applications on food with particulates or specific food with very sensitive components/ingredients and then packed in aseptic condition. Results will be presented taking real examples from the 40 plus industrial equipment installed worldwide and the most recent applications. For each application the main process data: capacity, power and tension applied, flow rate, particulate dimensions, pumping systems, pipe diameter will be showed together with some equipment details.



Biography

Massimo Zonca is a Food Technologist graduated from Milan State University. He has 30+ years of experience in leading Packaging Development, Food Process and Innovation at H J Heinz, and also at Kraft Heinz Company. Since 2016, he is an Independent Consultant on Food Packaging and Food Process, based in Bergamo, Italy. He held various roles at Heinz, as Packaging Engineer & Development Manager (1987- 2006), European R&D Manager (2006-2009) and Global Packaging Innovation Efficiency Manager until February 2016, managing global initiatives on packaging and innovation and facilitate technology transfer. He gained expertise working in several international projects both in Food Packaging Development and Food Process. He managed food contact issues working together with the DG SANCO (European Commission) and the Istituto Superiore di Sanita- ISS (Italian Health Ministry). He is a member of GSICA, Italian Scientific Group for Food Packaging, does lectures in Parma University on Food Packaging and provides speech at major conferences. He served his hometown (Filago – BG) as a Mayor, from 2005 to 2015.

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