Optical coherence tomography-based scanning system for shape determination, wallb thickness mapping, and inner inspection of glass containers

Eneas Nicolás Morel, Marina Verónica Gutierrez, Hernán Miguel Miranda, Edgardo Luis Sambrano, and Jorge Román Torga

ABSTRACT

In this work we present a method that enables simultaneous measurement of shape and wall parameters of glass containers. The system is based on the optical coherence tomography technique, employing the spectral domain configuration. The data were obtained by measuring the spatial coordinates of a sequence of points in a predefined region of a sample that includes points on the surface and in the interior of the material. Dimensional parameters, thickness mapping, and tomography studies of the interior of the sample walls can be obtained from these measurements.