

Summary

Fundamentals of heating and cooling are discussed in this module. A heat exchanger is a device used to transfer heat between one or more fluids. Plate and Tubular type heat exchangers were detailed. Thermal properties of foods and beverages must be known to perform the various heat transfer calculations involved in designing equipment and estimating process times for processing foods and beverages. In the present module thermal properties such as specific heat, thermal conductivity and thermal diffusivity were detailed. Finally three different modes of heat transfer, viz., convection, conduction and radiation has been discussed with their governing equations.