

End-use/Application write-up for Water Vapour Transmission Rate Machine (WVTR)

Water vapour barrier property of a polymer as gained more importance in order to extent the food shelf life. Studying the permeability characterization of the different polymer material (Homogeneous and heterogeneous polymer system) to the different packaging gases, in different environmental condition, is crucial to understand if the selected material is adapted to the chosen food contact field. The temperature and humidity parameters are of crucial important for food quality preservation, especially in real life situations, like food market, and house long-life use. The state of art on the permeability characteristics of the polymer packages used on food field is important.

The permeation properties of the packaging material can be used to predict the shelf life of the product. A critical function of the flexible packaging is to keep dry products dry (crisps, pasta, biscuits, sugar, and flour) and most products moist (cheese, muffins and chewing gum). Water vapour transmission rate, WVTR is the standard measurement by which films are compared for their ability to resist moisture transmission. A lower value indicates better moisture protection. With WVTR testing, effective quality control of food can be guaranteed and in this way the storage, transportation and shelf life of the food will be prolonged. The package WVTR is the total moisture permeates through the package. Hence Package WVTR measurement is very important in shelf life studies.

We are looking for the instrument to measure Package WVTR and WVTR of packaging material with following specifications

- Compliance with ASTM F 1249-13, TAPPI T557, JIS K 7129, ISO 15103-2.
- WVTR Range: 0.005 to 1000 g/package • day and g/m² • day.
- Temperature Range: 10 to 40 degC (+/- 0.2 degC).
- Relative Humidity Range: 5 to 90% (+/- 3%) & 100%.
- Material Thickness: 5 microns to 3mm.

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