INFLUENCE OF LEHR PARAMETERS ON DEGREE OF ANNEALING OF GLASS

P.R. Dadigamuwa
Mechanical Engineering Division,
Open University, Nawala.

The thermal stresses which are set up during production of Glass in greatly reduced by annealing. The temperature of glass is first increased to its annealing temperature and then reduced gradually by passing it through a series of temperature zones in an annealing lehr.

This paper presents a study carried out at the Ceylon Glass Company, Ratmalana to ascertain the significance of various parameters associated with annealing.

An attempt has been made to correlate the zone temperatures, stacking arrangement, lehr speed and the geometry of the product with the magnitude and character of residual stresses, in order to enhance the quality of finished products with a possible reduction in the total power consumption.

Composition analysis have been carried out for Amber and Flint glass to determine the correct annealing temperatures. Samples of bottles annealed at these temperatures with varying lehr parameters were tested for pressure and thermal shock resistance. The results obtained show a definite correlation between the parameters and the degree of annealing.