

**NUMERICAL AND ANALYTICAL STUDY ON THE SUBSTRATE THICKNESS
EFFECT DURING THE HEATING AND COOLING PROCESS OF COATING**

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ABSTRACT Window glass deposited with a multi-layer coating exhibits high visible transmittance, high reflectivity and low emissivity in the infrared range, thus becoming more energy efficient. The heating and cooling profile during the thin film coating process is of great importance. Non-uniform heating or cooling could lead to a large temperature gradient on the glass, which will cause large thermal stress and eventual breakage. In this study, an analytical approach is used to show the response time differences of soda-lime glass with different thicknesses. In addition, a numerical model is built to describe the heat transfer that occurs during a generalized deposition system for soda-lime glasses with two different thicknesses.