

## Effect of slot die geometry on the two-layer slot coating flow

곽형렬, 남재욱<sup>†</sup>

서울대학교

(jaewooknam@snu.ac.kr<sup>†</sup>)

Among many coating methods, two-layer slot coating is an efficient way to apply two layers with different functionalities simultaneously on the moving substrate. It is a continuous and pre-metered process which guarantees a fast production speed and high precision of the end-product. Thus it is widely used to produce a variety of products, such as battery electrodes and optical films.

Operating parameters, however, must lie within a certain range of values in order to ensure the production of high quality, defect-free products. This region of operating conditions, which allows a stable coating bead flow to form under the slot die, is bounded by the onset of operating limits, and is defined by the coating window. In this study, we examined the effect of slot die geometry on the onset of the operating limits, through the numerical computation using the two-dimensional finite element method(FEM). The results revealed that changing geometry can change the parameters at which the operating limits occur and can also alter the flow patterns.