

## Conditions for Uniform Coating in Deformable Roll Coating Flows

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In the roll coating process for steel products, the optimal control of coating weights on the steel substrate plays a key role in providing an excellent quality of the final products. Effects of coating liquids and roll coating conditions on the coating weights in the deformable roll coating flow have been investigated in this study. The key factors affecting the coating weights such as rheological properties of coating liquids, strip/applicator roll speed ratio, applicator/pick-up roll speed ratio, nip pressures between the rolls, and solid concentration have been systematically examined. A simple model, which is easily applicable in the steel industry, for optimal coating weights in the roll coating process has been developed.