

## 웹 이송시스템에서 장력 및 사행거동간의 영향에 관한 연구

신기현<sup>†</sup>(건국대) · 권순오\*(성안기계(주))**A Study on the Correlation between Tension and Lateral Behavior in a Web Transport System**

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**Key Words:** multi-span web transport system(다중 스펠 웹 이송장치), tension(장력), lateral movement(사행거동)**Abstract :** An experimental study on the relationship between longitudinal and lateral behavior of a flexible thin material was carried out. It was found out that there is critically correlated zone of operating conditions which exerts influence on the lateral behavior of the moving web, which is associated with slippage phenomena between the web and a roller surface. If the web tension is not sufficiently high, lateral dynamic motion is seriously affected by tension variation of the web and lateral position error of the moving web is increased as a result. The ratio of the displacement of a guider roll and the lateral position of the web was measured for many different operating conditions, and an effective factor was defined based on experimental data and a traction coefficient estimation model and air-gap thickness model with which slip condition can be determined. The factor describes the influence of the web tension on the lateral dynamic response of the moving web and can be used self-tuning guider control system.

## 스크린 프린터의 성능개선에 관한 연구

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유찬수\*(한국기계연구원), 김광영\*(한국기계연구원)**A Study on the Performance Improvement of Screen Printer**Young-Bog Ham, Jung-Soon Yang, Teak-Min Lee, Sonam Yun, Chan-Soo Ryu,  
Kwang-Young Kim**Key Words:** Screen(스크린), Printing(프린팅), Squeeze(스퀴지), Printing pressure(인쇄압력)**Abstract :** Screen printing technology has very commonly used in many ways due to the low cost effectiveness to existent FPD(Flat Panel Display) device manufacturing process. It also has very useful application areas, not only paper or textile printing but patterning for PDP, TFT-LCD color filter, RFID antenna, OLED, and so on. In this study, the printing pressure of screen printer was measured and controlled by load cell and pressure control valves for improvement of printing quality. And also, the clamping pressure of screen frame was controlled by proposed an air-hydro regulator for improvement of stable printing and a stronghold fixture of screen frame. The accuracy and repeatability of screen printing were improved by there proposed additional mechanism.