Plastic Substrate for Flexible LCDs

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Recent advancement of FPD mainly lies in the advent of big screen flat panel T.V. and monitors. Both Plasma Display Panels and Liquid Crystal Displays continue to dominate in the consumer markets. Recent development shows potential launching of flexible displays aiming for cell phone industry within two years. In the mean time, development of the flexible substrate has been accelerating to meet the specifications of display manufacturing processes. Main interests for the imminent flexible display application still stays with liquid crystal displays (LCD) although OLED may be the ultimate choice of display on flexible substrate as it may be fabricated into very thin layered structure. In this paper, recent trend in flexible substrate development will be reviewed. Various coatings applied on the substrate will be introduced in relation to the specifications related to display manufacturing process as well as long term stability of the resulting displays. Poly(ether sulfone) (PES) film that we have developed will be reviewed and the display substrate utilizing PES film will be introduced. Technical attention will be given on the issue.