



軟性智慧窗材料技術

Flexible Smart Window Material Technology

簡介 Introduction

高分子分散型液晶，可輕易在透明與不透明態間轉換，最為人熟知的應用為電子窗簾，可同時兼具透視性與隱密性，是一項受人矚目的產品。近年來「節能減碳」的智慧綠色商品市場快速興起，預估至 2017 年搭配軟性節能膜技術的新智慧窗產業，將創造約 10 億美元的銷售額。雖然高分子分散型液晶薄膜技術發展至今已 30 餘年，但傳統智慧窗材料以片式塗佈為主，因應不同需求應用有許多限制。工研院材化所開發之捲材式塗佈技術，可應用在票卡、小型投影幕乃至建築帷幕等各種領域。

The well-known potential of polymer dispersed Liquid Crystal (PDLC), switching easily between transparency & non-transparency, for smart window films rekindle lots of interest to address recent energy saving issue. Over a billion US\$ sales is expected by 2017. Contrary to the limitation of traditional sheet-type process, a R2R flexible PDLC-based smart film process has been developed by ITRI/MCL, with the advantage of easy accommodating to different requirements for various applications.

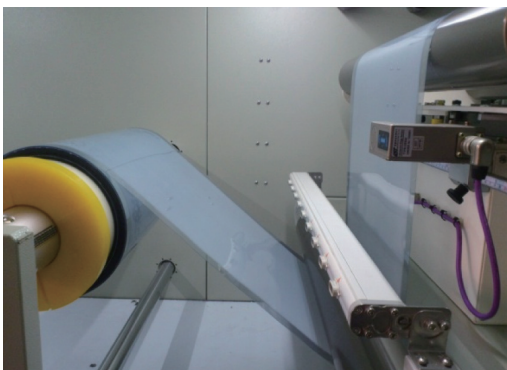
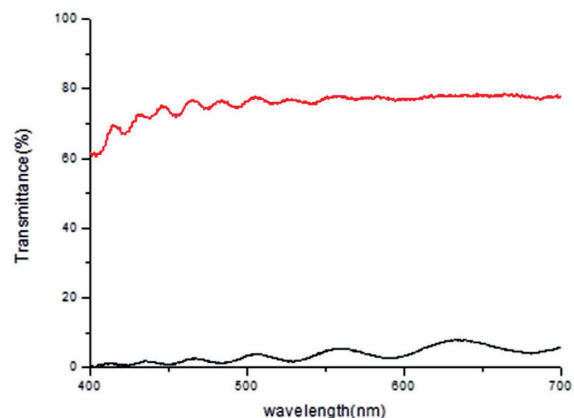
特色 Features

- 透明不透明對比可達 20 : 1
- 高應答速率 <300ms
- High contrast ratio of 20:1
- Fast response (Rise+decay time) <300ms

應用 Applications

電子票卡、玻璃帷幕、投影幕、天窗、家用、車用、商務用、建築用...等。

E-card, window shielding, projection screen, skylight, Household, automotive, commercial use, construction, etc.



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