



OLED 取光材料與技術

Light Extraction Materials and Technology for OLED

特色 Features

此項具有高耐熱性與透明的光學材料，可適用於高溫的 ITO 製程中。內部 / 外部取光材料可應用於 OLED 照明與顯示器。

The transparent optical materials with high heat resistance have been developed. The materials are suitable for high temperature ITO sputtering process. It could be used as an internal/external light extraction material for OLED lighting/display.

● 內部取光材料

Internal light extraction material

折射率 @550nm Reflective Index (n) @550nm	厚度 Thickness	平坦度 Roughness	耐熱性 Thermal Resistant
1.6~1.7	<1 μ m	<3 nm	>250 $^{\circ}$ C

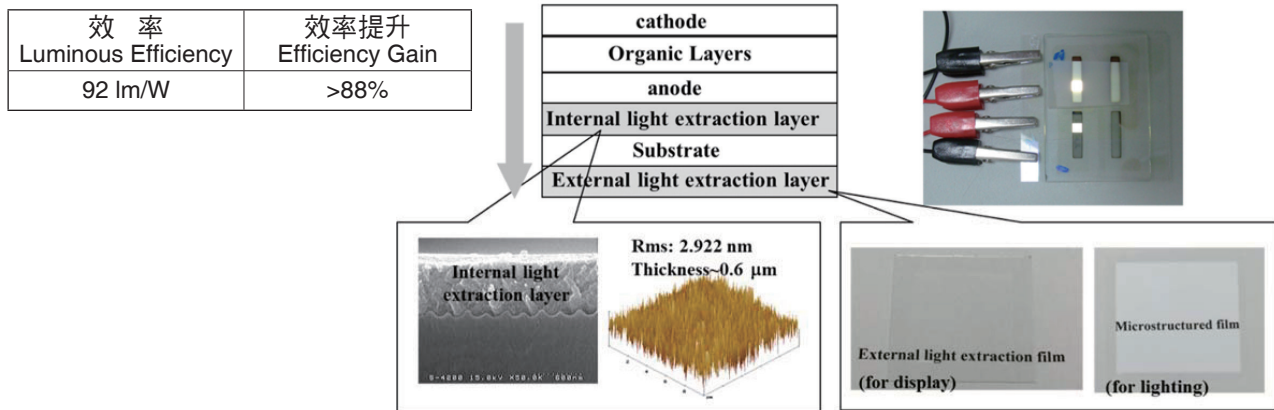
● 外部取光材料

External light extraction material

折射率 @550nm Reflective Index (n) @550nm	穿透度 @550nm Transparent@550nm	耐熱性 Thermal Resistant
1.4~1.5	>90%	>250 $^{\circ}$ C

● 具內、外取光結構的 OLED 元件

External light extraction film/glass/ Internal light extraction layer/OLED device



● 白光 OLED 元件 WOLED devices

@ 1000 cd/m²

Structure	CIE	Luminous Efficiency (lm/W)	Efficiency Gain (%)
Glass/OLED	0.38, 0.49	49	-
Glass/Internal Light Extraction Layer/OLED	0.38, 0.47	58	18
External Light Extraction Film/Glass/OLED	0.39, 0.49	70	43
External Light Extraction Film/Glass/ Internal Light Extraction Layer/OLED	0.37, 0.47	92	88

應用 Applications

OLED 照明 OLED lighting、OLED 顯示器 OLED display

可提供的服務 Service Items

- 內部取光材料 Internal light extraction material
- 外部取光材料 External light extraction material
- 取光材料物性分析與評估 Characterization and evaluation of the light extraction materials
- 取光材料用於 OLED 驗證 The OLED device verification for the light extraction materials

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