

Gravure Printing of Organic Layer for Potential Organic Electronic Devices

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Gravure printing is introduced as technique to pattern organic layer instead of thermal sublimation that is conventional technique in organic light emitting diode (OLED) in this work. Thermal sublimation has faced limitation of economical point according to display size getting bigger. Gravure printing technique can potentially replace the thermal sublimation to overcome the limitation.

8-tris-hydroxyquinoline aluminum (Alq₃) and N-N-dipheyl-N,N-bis(3-methylphenyl)-[1,1-biphenyl]-4,4-diamine (TPD) is used as emitting organic material. The organic layer is transferred into glass substrate sputtered indium tin oxide (ITO) from polydimethylsilane (PDMS) stamp. Organic pattern is realized by gravure printing in a scale of 100 μm and confirmed by FE-SEM.