

### Barrier properties of organic-inorganic hybrid multilayer structure for thin film encapsulation of flexible OLED

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OLED(Organic Light-Emitting Diode) have been attracted for the industrial of display following that of LCD(Liquid Crystal Display), or inorganic LED. But because the vitality of OLED is critically affected by oxygen and water, encapsulation technology for protecting OLED was developed very abruptly. One of the outstanding technologies for preparing the encapsulation film is so-called MLD(Molecular Layer Deposition). Its process uses chemical adsorption of reactive precursors so that thin barrier film can be fabricated spontaneously. And by using hybrid structure of organic and inorganic layer, both of properties of flexibility (for organic layer) and stability against oxygen and moisture (for inorganic layer) can be earned concurrently. In this research, thin film was fabricated on PET substrate by using 7-OTS (organic layer) and TIP (inorganic layer) as the reactive precursors, and reaction was occurred in 150°C and 300mtorr. Barrier properties was shown by changing the number of cycles and by measuring WVTR.