

Preparation and characterization of organic–inorganic hybrid overcoating films for flexible electronic device

정문현, 김세열, 김소연, 김중현*

연세대학교

(jayhkim@yonsei.ac.kr*)

A number of candidate materials to replace the ITO have been researched as a transparent electrode for flexible and transparent devices. However, they have disadvantages that the properties can be changed by contact of the atmospheric moisture or gas under single layer coating, and which cause a decline of the durability of electronic devices. For preventing change of properties, it is need to using another layer, such as inorganic overcoating layer which has outstanding mechanical property and protect for atmosphere moisture or gas. But it has disadvantage of bending which limit to use of the flexible electronic devices. Therefore, this problem can be overcome by providing flexibility in inorganic film adding organic compounds. In this study, organic–inorganic hybrid coating was prepared by using simple blending method. Polyvinyl alcohol (PVA) and tetraethoxysilane (TEOS) were used as the organic and inorganic materials, respectively. The hybrid film was coated using bar coater and investigated physical property and surface characterization.