

Preparation and characteristic of water-borne polyurethane dispersion/MWCNT composites anti static coating films

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Carbon nanotube(CNT)was well known as the material which has high mechanical and electrical properties. In order to the CNT has been much researched as an additive to improve properties of various materials. Also, the studies on variable properties of water-borne polyurethane dispersions(WPU) have a lot of attention as binders in coatings due to the low contents of organic solvents. In this study, water-borne polyurethane dispersions with different molar ratio of NCO to OH(NCO/OH) contents were prepared by polyol, isophrone diisocyanate, and dimethylol propionic acid(DMPA). Subsequently, multi-walled carbon nano tube(MWCNT) was added on the WPU. The prepared coating solutions were coated on polycarbonate(PC)substrates. Then we have measured the mechanical properties and surface resistance values of the coated films.