

Preparation of aniline terminated water-borne polyurethane dispersion/MWCNT composites coating solution

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Water-borne polyurethane(WPU) can be used as a good material in various industrial fields, such as durable elastomeric wheels and tires, spandex fibers, high performance adhesives and sealants. Also, the studies on variable properties of PUD (polyurethane dispersion) have been attracted a lot of attentions.

In this study, the aniline terminated water-borne polyurethane dispersion coating solutions were prepared from Poly(carbonate diol), Isophrone diisocyanate(IPDI), and dimethylol propionic acid(DMPA). Then, aniline monomer was capped on the NCO group of the prepolymer. 1,4-butanediol and ethylene diamine(EDA) were used as the chain extenders. Finally, the aniline terminated WPU was mixed with Multi-walled carbon nano tube (MWCNT). The coatings were prepared by spin-coating on PC(poly carbonate). We examined changes of the surface resistance values with addition of different types of the chain extender.