

### Preparation and properties of water-borne polyurethane/metallic salts coating films

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The studies on Polyurethanes(PU) have been attracted a lot of attentions in wide industrial fields due to their variable properties such as high adhesive strength and hardness. Especially, PUs were used as the binders and primers in coatings for various substrates. In addition, PUs can be dispersed stability on water with adding ionic groups during the polyaddition reaction. The water-borne process has a advantage that use low amounts of organic solvents. Therefor, water-borne polyurethane dispersion(WPU) has also much studied as a functional material in variety of areas. In this study, The WPU with different molar ratio of NCO to OH(NCO/OH) contents were synthesized by polyol, isophrone diisocyanate, and dimethylol propionic acid(DMPA). The urethane prepolymer was measured by FT-IR to observe the urethane reaction. Subsequently, different types of metallic salts(LiClO<sub>4</sub>, NaClO<sub>4</sub>, and KClO<sub>4</sub>) were added on the WPU to prepare anti-static water-borne polyurethane coating solutions. The coating solutions were coated on polycarbonate(PC)substrates. Then mechanical properties and surface resistance values of coated films were measured.