Preparation and Characterization of Acryl-based Alkali soluble UV Curable Ink

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Thermosetting resins such as epoxy, phenol, or polyamide resins are mainly used as the coating solution for the glass protecting on the machining process. However, interests for the development of UV curable coating solution are increasing because thermosetting resin had many problems, such as low productivity due to long curing time, a large amount of energy consumption per unit area, and the environmental pollution due to emit volatile solvents on curing process. Preparation of appropriate UV curable ink should be entirely considered following characteristics ; the selection of polymerizable starting materials, optimization of blending ratio for suitable viscosity for workability, shrinkage control at curing time, surface control for smoothness and hardness after curing, the selection of suitable photo initiator considering the wave length and quantity of irradiated light from UV lamp, selecting the easily removal resins with aqueous chemical agent etc. In this study, in order to develop the alkali soluble UV curable ink which could be applicable to protect glass from the pits and scratch, relationship between process parameter for preparing ink and their effects on the final protecties was investigated.