

Effect of mole-ratio of GMA/MMA on properties of poly(GMA-co-MMA) for the molded materials

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Studies on the synthesis of UV-curable resin have been performed for recent a few years. Various UV-curable resins have been used for the protection film of electronic goods. Because UV-curable resins used for the protection film have good durability, in general. But, since elongation occur during the coating process, unavoidably, cracking is caused in the curved part of the product. Finally, application of small electronic goods having many slope or curve is difficult. Therefore, flexibility of resin which is used as coating solution is required, as well as control of coating conditions. There are many factors influencing flexibility or hardness of cured film such as molecular weight, functionality, molecular structure of resin. In this study, it was synthesized the UV-curable resin with an increasing flexibility maintaining a high durability. Each solution was synthesized by charging different mole-ratio of GMA/MMA, and then, observed change of resin properties. The resin obtained had average molecular weight from 13,000 to 35,000. The protection film was performed by a wet coating the solution containing poly(GMA-co-MMA). Hardness of coated film was 1~3H, Haze of 0.79~1.2% and 5% flexibility from the study.