

Improvement in the dispersion stability of ZAO/acrylic copolymer by dispersion agent

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Nanocomposites were prepared by using ZAO (zinc aluminum oxide) nano powder and acrylic copolymers. The dispersion stability was studied by using dispersion agent in order to minimize the aggregation of ZAO. Acrylic copolymers as binder resins were synthesized by using acrylic monomers such as 2-ethylhexyl acrylate, ethyl acrylate, and 2-hydroxyethyl acrylate. TEGO610, TEGO655, BYK180, and TERRA-U were investigated as dispersing agent. Among these dispersing agents, TEGO610 showed the best performance in the dispersion stability of ZAO nano powder as well as the coating uniformity of the ZAO/acrylic copolymer nanocomposites.