

## Utilization Reactive Dilutes to Improve the Properties of Epoxy Resin as Anticorrosion Coating

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**Abstract :** Anticorrosion coatings protect metal surfaces from environmental factors, including moisture, oxygen, and gases that cause corrosion to the metal. Various types of anticorrosion coatings are available, with different properties and application methods. Many researchers have been developing methods to prevent corrosion, and epoxy polymers are one of the wide methods due to their excellent adhesion, chemical resistance, and durability. In this study, the synthesis of reactive dilute based on glycidyl methacrylate (GMA) with each of 2-ethylhexyl acrylate (2-EHA) and butyl acrylate (BuA) to improve the performance of epoxy resin and anti-corrosion coating. The copolymers were synthesized with a composition ratio (5/5) by bulk polymerization technique using benzoyl peroxide as a catalyst. The obtained copolymers were characterized by FTIR, viscosity and thixotropic index. The effect of copolymers as reactive dilutes on the physical and mechanical properties of epoxy resin was investigated. Metal plates coated by the modified epoxy resins with different contents of copolymers were tested using alkali and salt test methods, and the copolymer based on GMA and BUA showed the best protection efficiency due to the barrier effect of the polymer layer.

**Keywords :** epoxy, coating, dilute, corrosion, reactive

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