Fatty acid modified acrylated epoxy resin esters for use as a mixing component in water based, air drying one component coatings on metal substrates.

Abstract:

Epoxy resins have always been an important class of binders in terms of adhesion and corrosion protection of metal surfaces.

Classical epoxy resins are obtained by condensation of epichlorohydrin and bisphenol. The resulting polymer molecules exhibit, among other things, excellent adhesion properties due to the polar character of the resin molecule. Low-molecular epoxy resins are light to viscous. High-molecular epoxy resins are solid resins with melting points up to 150° C.

Through further targeted modification of the epoxy resin by esterification with fatty acids and acrylation, it is possible to change the physical properties in such a way that the coating formulator has a significantly wider range of variations available for use in liquid coatings. Interesting property profiles can be obtained by this type of modification, especially for use as combination resins.

The presentation will focus in particular on the improvements in one-component air-drying coating systems directly on metallic substrates.