

Manufacturing Process of Epoxy Resins with Formulation (Synthesis, Epoxy Resin Adhesives and Epoxy Resin Coatings)

Description:

Epoxy is a term used to denote both the basic components and the cured end products of epoxy resins, as well as a colloquial name for the epoxide functional group. Epoxy resins are a class of thermoset materials used extensively in structural and speciality composite applications because they offer a unique combination of properties that are unattainable with other thermoset resins.

Epoxy resins are characterized by epoxy equivalent (EEV)/epoxy value, hydrolysable chlorine content, total chlorine content, viscosity/softening point, volatile content, colour, clarity, hydroxyl value, ionic iron, sodium and chlorine contents. Epoxy resins are a group of synthetic resins, which are used to make adhesives and plastics. Owing to their versatility, high resistance to chemicals, durability, excellent adhesion, toughness, high electrical resistance, strong durability at both low and high temperatures, and ease they offer while pouring on cast without forming any bubbles, epoxy resins are becoming an integral part of various commercial and industrial sectors.

Epoxy based solution coatings are used in maintenance and product finishes, marine finishes, masonry finishes, structure steel coatings and tank coatings, aircraft finishes, appliance primers, automotive primers, car and drum linings, furniture finishes and collapsible tube coatings. They are used for concrete floor paints, gym and floor varnishes, spar varnishes etc. Epoxy Resins are also used in decorative floor applications, as chemically resistant mortars and floor topping compound; in printing inks, in fabric treating applications in dental, surgical and prosthetic applications for breaking petroleum emulsions and for light weight chemically resistant foams.

The epoxy resins are used as additives for a variety of other plastic materials, such as vinyl and acrylic resins and natural and synthetic rubbers.

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Keywords: Epoxy Resins Manufacturing, Manufacturing Process of Epoxy Resins, Epoxy Resins Formulation, Epoxy Resin Synthesis, Epoxy Resin Adhesives, Epoxy Resin Coatings, Epoxide-Curing Reactions, Properties of Epoxy Resins, Electrical and Electronic Applications, Sealants and Foams, Epoxides and Epoxy Resins, Toxicology of Epoxy Resins

Created At: 01 Oct, 2016