

Multi functional epoxy resin as coating material

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Epoxy resin is mainly used as thermal curing coating material containing solvent, because it has excellent chemical resistance, heat resistance, impact resistance, hardness, and yellowing resistance. Moreover epoxy resin can be used as fast-curing surface coating material at low temperature if photo sensitive functional group is added to it. When the composition does not contain any solvent and all components of composition is cured without volatilization during curing process, the composition can be perfect eco-friendly coating material. In addition, prepolymer introduced reactant functional group to side chain can be used hyper-branched coating material and that can be used high crosslinked hard coating material having low yellowing and minimal toxicity if initiator is not used. In this presentation, we introduce the modifying technology for the epoxy resin to be coated quickly on substrate at low temperature, multi-functionalization of side chain to improve the hardness, and development of the self-initiating coating material to decrease yellowing and toxicity and to increase storage stability.