MEGARA RESINS®
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GLOW

Introduction

The current dominant market trend in the paint industry is the **replacement of conventional paint products containing volatile organic solvents**, with alternative technologies such as **powder coating systems. Key parameters** for exterior powder coatings are **weather-resistance** and **gloss consistency.** **Low-gloss coatings** are a requirement for **decorative and architectural purposes** where there is a **need to minimise undesired light reflectance** or make **surface defects in the substrate less visible.** The most common matting methods are **time-consuming** and suffer from **gloss level homogeneity** and **reproducibility** limitations. We wish to report herein novel low-gloss exterior-durable powder coatings for one-shot system process.

Synthesis of Monofunctional Acrylic Resins

GMA
BuMA
Styrene
MMA

Polymer Acrylic resin
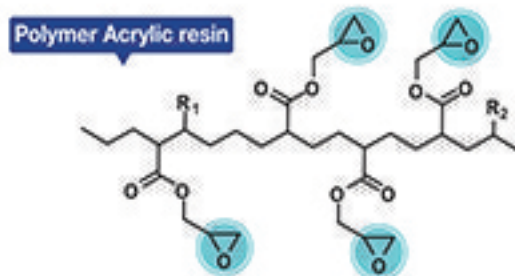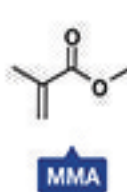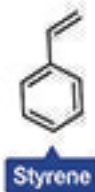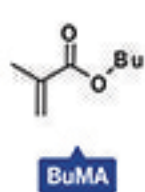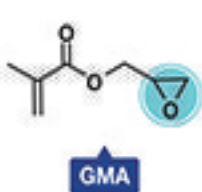
Ratios of monomers: **diversity of resins GMA content from 23% to 30% and Tg > 55°C.**
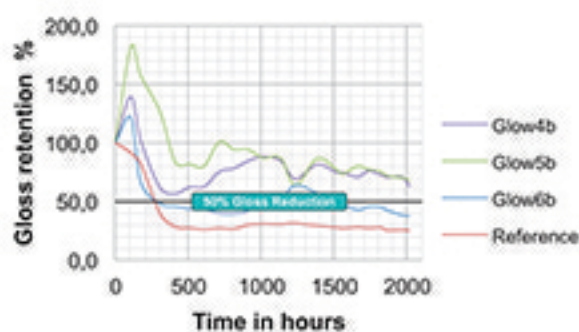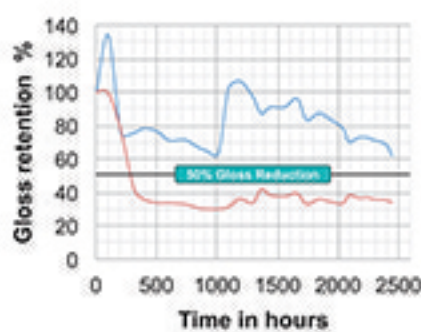
Formulation of Powders

Ratios of acrylic resin, polyesters, cross-linker are mixed and extrudate all together in a one-shot process: **reach a low-gloss powder coatings i.e. 20 < gloss@60°< 30.**

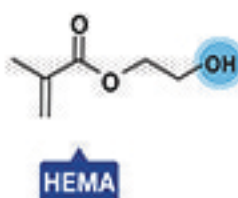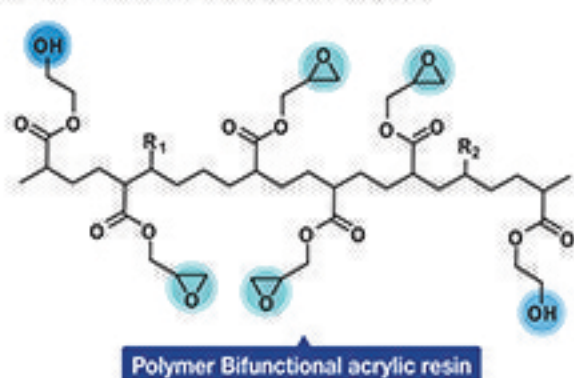| Formulation	Gloss@60°
65% Glow3b	23.6%
70% Glow4b	22.6%
65% Glow5b	31.8%
60% Glow6b	33.6%

Reproducible low-gloss powder coatings.

Accelerated QUV experiments

Superior weather-resistance for three formulations.

Synthesis of Bifunctional Acrylic Resins

Use of HEMA as an additional monomer.

HEMA

Polymer Bifunctional acrylic resin

Diversity of resins: GMA content from 22.5% to 30%, Tg > 55°C.

Formulation of Powders

Investigations are underway:

it is possible to **achieve low-gloss powder coatings** but with **inferior flow.**