

Glaze Coating

Enabler for Polycarbonate as Glass Replacement in Automotive Applications

General Description

Significant weight reduction and freedom of design: Asahi Kasei is currently developing a water-based coating that enables polycarbonate as a glass substitute in automotive front-, rear- and side window applications. Polycarbonate coated with this technology achieves an ECE R43-compliant abrasion resistance for front window applications without using a plasma-enhanced chemical vapor deposition. At the same time the material maintains the chemical and weather resistance required for automotive plastic side and rear windows.

Material Properties

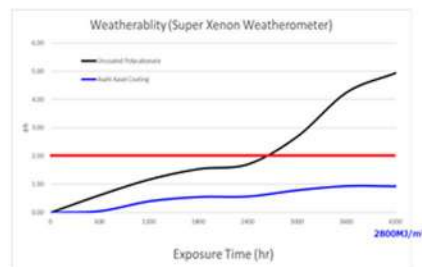
Abrasion Resistance



Polycarbonate (PC) Prototype $\Delta\text{Haze} < 2\%$ Glass $\Delta\text{Haze} < 2\%$

Coated polycarbonate prototype with similar abrasion resistance as glass

Weatherability



Application Fields

- Automotive windows, windshields, sunroofs

Sustainability

- Significant weight reduction compared to glass (-50%)
- Enhanced design flexibility and durability
- Low haze (< 2%)
- Less VOC emissions during coating process