

## Chemical Durability of Textured Glass-coat Suitable for Building Application

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**Abstract :** This study investigates the behaviour of textured glass coat to chemical reactions upon application. Samples of textured glass coat developed from mixed post consumer glass were subjected to pH test (ASTM D5464), Chemical resistance test (ASTM D3260 and D1308), Adhesion test (ASTM D3359), and Abrasion test (ASTM D4060). Results shows a pH of 8.50, Chemical resistance of 5% flick rate when reacted with Sodium hydroxide (NaOH), a 3%, 5%, 10%, and 15% discolouration when reacted with Magnesium hydroxide (Mg(OH)<sub>2</sub>), Hydrogen fluoride (HF), Potassium hydroxide (KOH) and NaOH respectively, an adhesion of 4A and abrasion of 0.2g. The results confirm that the developed textured glass coat is in line with the standard pH range of 8-9, resistant to acid and base except for HF, NaOH, and Mg(OH)<sub>2</sub>, good adhesion and abrasion properties, thereby making the coat resistant to chemical degradation and a good engineering material.

**Keywords :** chemical durability, glass-coat, building, recycling

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