

Sulfuric acid attack on ordinary Portland cement and geopolymer material

Abstract

The resistance of ordinary Portland cement binder towards acid had been widely discussed by researchers. The deterioration effect of this binder may cost high repair expense and rehabilitation. Geopolymer material is a new binder technology, which has superior durability against acidic attack. The properties of both binder, exposed to acid environment will be discussed in terms of mechanical effect such as compressive strength and weight loss. Electron microscopic (SEM) and energy dispersive X-Ray (EDX) data will be also briefly summarized as well as, the corrosion mechanism of both binder.

Keywords

Geopolymer; Mechanical properties; Portland cement; SEM-EDX; Sulfuric acid attack