

## **Microstructural analysis of geopolymer and ordinary Portland cement mortar exposed to sulfuric acid**

### **Abstract**

The vulnerability of ordinary Portland cement (OPC) concrete to acidic attack is a worrying subject regarding the future durability of this binder. On the other side of binder's technology, the new technology of cement called 'geopolymer' had been studied widely in all over the world. Indeed, the major advantage of geopolymer compared to Portland cement is chemical resistance. This paper presents a study about the microstructural properties of geopolymer and OPC mortar. Visual inspection of both mortars had been performed. Stereo microscope device and Secondary Electron Microscope (SEM) were used to investigate the microstructural changes of the specimens. It was found that geopolymer mortars were less susceptible to the attack by sulfuric acid solution than the OPC cement mortars.

### **Keywords**

Geopolymer; Microstructural; SEM; Sulfuric acid attack