

Corrosion performance of reinforcement bar in geopolymer concrete compare with its performance in ordinary portland cement concrete: A short review

Abstract

Since decades ago, corrosion is the crucial factors for million dollars loss in construction industry. Corrosion of reinforcement bar in ordinary Portland cement (OPC) concrete is mainly due to chloride and acid attack and also due to carbonation process. The degradation of geopolymer (GP) concrete is still widely studied and the mechanisms of degradation are still not conclusive. However, reinforcement bar in GP concrete is reported having lower corrosion rate than in OPC concrete. The fly ash geopolymer has high alkalinity which provides the passivity of the reinforcement bar. The superior properties of GP have encouraged researchers to do further investigation on its performance. This review paper will focus on corrosion performance of reinforcement bar in GP compared to OPC.

Keywords

Corrosion; Geopolymer concrete; Ordinary portland cement concrete; Reinforcement bar