

External Sulphate Attack: Advanced Testing and Performance Specifications

Authors : G. Massaad, E. Roziere, A. Loukili, L. Izoret

Abstract : Based on the monitoring of mass, hydrostatic weighing, and the amount of leached OH- we deduced the nature of leached and precipitated minerals, the amount of lost aggregates and the evolution of porosity and cracking during the sulphate attack. Using these information, we are able to draw the volume / mass changes brought by mineralogical variations and cracking of the cement matrix. Then we defined a new performance indicator, the averaged density, capable to resume along the test of sulphate attack the occurred physicochemical variation occurred in the cementitious matrix and then highlight.

Keywords : monitoring strategy, performance indicator, sulphate attack, mechanism of degradation

Conference Title : ICCBM 2015 : International Conference on Construction and Building Materials

Conference Location : Copenhagen, Denmark

Conference Dates : June 11-12, 2015