

## **Shrinkage-compensating Concrete: Early Age and Long Term Behavior of Commercial Products**

**A. Bettencourt Ribeiro\***

Concrete Division of Materials Department, LNEC - Laboratório Nacional de Engenharia Civil, Portugal,

\*Corresponding author: A. Bettencourt Ribeiro, E-mail: [bribeiro@lnec.pt](mailto:bribeiro@lnec.pt)

### **Abstract**

Shrinkage-compensating concrete is usually used to minimize cracking caused by shrinkage. This type of concrete is recommended in structural and non-structural repairs, when there are internal or external restraints for the concrete elements. Commercial products which include concrete based on expansive cements or made with shrinkage reducing admixtures are available. This study evaluates the behavior of two commercial products, both at early age and also after some 2 years. The results indicate an appropriate behavior between demolding and the first weeks, both in sealed and submerged environments, but, after that, a consistent and relevant increase of shrinkage was observed.

**Keywords:** Shrinkage-compensating concrete; Repair concrete; Cracking control.