

## A Review of Self-Healing Concrete and Various Methods of Its Scientific Implementation

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**Abstract :** Concrete, with its special properties and advantages, has caused it to be widely and increasingly used in construction industry, especially in infrastructures of the country. On the other hand, some defects of concrete and, most importantly, micro-cracks in the concrete after setting have caused the cost of repair and maintenance of infrastructure; therefore, self-healing concretes have been of attention in other countries in the recent years. These concretes have been repaired with general mechanisms such as physical, chemical, biological and combined mechanisms, each of which has different subsets and methods of execution and operation. Also, some of these types of mechanisms are of high importance, which has led to a special production method, and as this subject is new in Iran, this knowledge is almost unknown or at least some part of it has not been considered at all. The present article completely introduces various self-healing mechanisms as a review and tries to present the disadvantages and advantages of each method along with its scope of application.

**Keywords :** micro-cracks, self-healing concrete, microcapsules, concrete, cement, self-sensitive

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