

Gelivity Effects on Construction Elements

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Abstract text:

Complex nature of environment effects on concrete structures has imposed an improvement of material characteristics, an adequate design, accurate execution and inspection, maintenance and prevention of deterioration risks. Large complexity of concrete elements deterioration processes, it is determined by the relation between adopted structural conceptions, exposing climatic conditions, concrete composition, quality of execution processes, but also due to synergetic action of destructive agents. When water freezes in a porous material, like cement stone, raise its volume about 9%, and can lead to concrete cleavage, when pores are saturated with water. Using deicers on concrete surface for melting of ice or snow, cause a thermal shock. Temperature difference between the surface and the core of concrete leads to interior stress and deformation state, capable to influence cracking of concrete layer from the surface of element. Prevention of damages and their amplification needs inspection, maintenance and overhauling of structures.

Key Words:

Concrete; freeze thaw; external factors; degradation.

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