

Comparison of the durability of structures constructed with self-compacting concrete in corrosive and non-corrosive environments

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Abstract

Today, the presence of concrete in the body of structures is a clear and veritable reason for its numerous preference. Precision in the production and execution of reinforced concrete structures is essential. However, when we look at the concrete viewpoint, we find that in concrete environments, concrete stability has always been a serious problem in marine environments. Self-compacting with respect to its unique density and quality, it is more durable than Conventional concrete. The durable proposition is one in which there are two aspects of economic and safety, which, if not sufficiently precise, will cause financial, psychological and even environmental threats. The durability of concrete, in contrast to environmental conditions, such as acid rain, chemical erosion and the effects of physical wear, can be varied, and the use of concrete in different members of the structure can cause the shape and properties of the concrete to be changed manually; therefore, it has been tried and tested. The content of this paper reflects the durability and durability of structures constructed with concrete SCC. Also, in this paper we are going to compare the effect of corrosive and non-corrosive environments on concrete durability.

Key words: self-compacting concrete, durability, corrosive environments, non-corrosive environments.

1. Introduction

Due to the expansion of the population, the development of the construction industry is also increasing, one of the most consuming materials in the industry that is of interest to researchers and researchers is Concrete. This has made it important to increase the coefficient of safety in the manufacture of concrete structures, one of which is concrete resistance and durability. It is noteworthy that in the concrete industry, concrete strength is high and We have come to appreciate, but the problem, the durability of as much, as may be unnecessary, and the vast majority of the cost of the experiments, have been based on the compressive strength and tensile strength of concrete [1]. The inappropriate nature of concrete components and concrete pouring and curing, which has a direct relation to its lifetime and causes early destruction of this hard material, has led researchers to identify the factors that affect concrete durability and ultimately This has led professionals to come up with important ideas over the last three decades. The existence of these labor cost problems in Japan strengthened the idea of self-compacting concrete production in 1986 by Okamura. Finally, the first self-compacting concrete research model was completed in 1988. Due to the production of a new generation of