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DURABILITY- KEY FACTOR OF NEW GENERATION CONCRETE PREPARATIONS

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ABSTRACT

Most concretes are excellent at 28 days otherwise a simple repair or replacement may be done. However, concrete is meant to last for decades or centuries. After the first 28 days concrete will continue to mature and age, depending on the original material composition and properties and the environmental actions during service. Sulfates, Chlorides, Acids and Soft water are causing disintegration or expansion. Durability failure may also occur because of internal expansion from concrete constituents that are swelling; usually because of a reaction product absorbing water. This paper focuses different causes and issues related with durability of structural concrete. Hydraulic concrete is one of the most-used construction materials around the world. Portland cement is its principal component, but during its production a lot of energy is needed, and big volumes of greenhouse Gases like CO_2 are released.

KEYWORDS: Durability, Swelling, Soft Water, Structural Concrete, Environmental Action