



METHODOLOGY FOR MEASURING THE CARBONATION DEPTH OF CONCRETE – STANDARD AND NON-STANDARD ASPECTS

METODYKA POMIARU GŁĘBOKOŚCI KARBONATYZACJI BETONU – ASPEKTY NORMOWE I POZANORMOWE

Piotr Woyciechowski, Maja Kępnik*, Jędrzej Pawłowski
Warsaw University of Technology, Poland

Abstract

Carbonation of concrete is a complex phenomenon, depending on many factors, including the heterogeneity of concrete, which results in an uneven carbonation front. The assessment of the depth of the carbonation front depends on the measurement technique adopted. The article summarizes the standard techniques for measuring the depth of carbonation and proposes an alternative measurement technique based on the measurement of the fields of the carbonated and noncarbonated surfaces, and then converting to the averaged depth of carbonation. For an example sample, the results obtained with different standard techniques and the proposed off-standard technique were compared.

Keywords: carbonation, research technique, carbonation front, cement concrete

Streszczenie

Karbonatyzacja betonu jest zjawiskiem złożonym, zależnym od wielu czynników, między innymi niejednorodności betonu, z czego wynika nierównomierny front karbonatyzacji. Ocena głębokości frontu karbonatyzacji zależy od przyjętej techniki pomiaru. W artykule podsumowano normowe techniki pomiaru głębokości karbonatyzacji oraz zaproponowano alternatywną technikę pomiaru opartą na pomiarze pól powierzchni skarbonatyzowanej i nieskarbonatyzowanej, a następnie przeliczeniu na uśrednioną głębokość karbonatyzacji. Dla przykładowej próbki porównano wyniki otrzymane różnymi technikami normowymi oraz zaproponowaną techniką pozanormową.

Słowa kluczowe: karbonatyzacja, technika badawcza, front karbonatyzacji, beton cementowy

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