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Announcement

Construction Materials

Award-winning paper in 2022

Papers published in *Construction Materials* are eligible for awards from the Institution of Civil Engineers. Papers from any of the ICE journals can be nominated for several awards. In addition, each journal has awards dedicated to their specific subject area.

On Friday 13 October 2023, ICE president Keith Howells presented an award to the following paper published in *Construction Materials* in 2022. The editorial panel nominated their best papers and an awards committee chaired by Tim Broyd allocated the awards.

Thomas Howard Medal

The Thomas Howard Medal, presented for the best paper detailing the use of materials in construction, was awarded to Hooton and Fournier (2022).

Abstract

In this study, the impact of high-alkali Portland cements on the prescribed level of supplementary cementitious materials (SCMs) required in the Canadian standard for alkali–silica reaction mitigation was evaluated. On the basis of the results, for concretes containing aggregates exhibiting moderate reactivity, the maximum allowable cement alkali limit was increased from 1.00 to 1.15%. For all the levels of aggregate reactivity, cement alkali contents could be allowed up to 1.25% provided the recommended level of mitigation by SCMs was increased. In the initial laboratory study, mortar bars and concrete prisms were cast and monitored using two different reactive aggregates and recommended levels of fly ash and slag. For the concrete prism tests, the alkali contents of cements were increased to 1.25%, as per the standard, or were increased by 0.25%. Instrumented outdoor exposure concrete blocks, along with additional concrete prisms stored at different temperatures, were cast from numerous mixtures prepared with cement alkali equivalents ranging up to 1.22%. This paper reports on the long-term performance of prisms and concrete blocks after 12 and 27 years. The performance of the outdoor blocks is also compared with the predicted performance based on the results of accelerated mortar bar and concrete prism test.

REFERENCE

Hooton D and Fournier B (2022) Long-term alkali–silica mitigation of high-alkali concrete with cement replacements. *Proceedings of the Institution of Civil Engineers – Construction Materials* **175(3)**: 125–136, https://doi.org/10.1680/jcoma.21.00049.