Development of an Alkali-Silica-Reaction Suppressing Material with Li-containing Zeolite

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The alkali-silica-reaction-suppression effect of Li-containing zeolite prepared from metakaolin was found to be greater than that of commercial Ca-A type zeolite. Material containing more Li-ABW type zeolite suppressed alkali-silica reaction more effectively when used as an admixture. In contrast, material containing more Li-EDI-type zeolite was more effective in suppressing alkali-silica-reaction in use as grout for cracks. We made trial samples of a new crack grout with Li-EDI type zeolite which is more effective in suppressing alkali-silica-reaction than a commercial crack grout with Ca-A type zeolite. We detected no problems with the physical characteristics of this material when used as grout, and it was deemed suitable for filling cracks as small as 0.04 mm in width.