

Responses for the Reviewer's Comments

Reviewer #3:

The paper deserves high appreciation as it deals with a method to rapidly assess the ASR potential of aggregates at various alkali loadings and formulating ASR resistant concrete mixes. However, Table 4 which was given under the subheading Conclusions, could be removed and accommodated under a subheading recommendations/ discussions.

Response to Reviewer #3:

The subheading of "Conclusions" was changed to "Conclusions and Recommendations"

Reviewer #6:

This is an interesting and relevant paper. The conclusions are support the research questions.

Comment:

1. The concentration of alkalis in the pore solution is a function of composition and the w/c ratio. Since you have not provided the full details of the four concrete mixes, could you clarify in the text the essential parameters of the mixes e.g. w/c, admixtures, paste/aggregate etc?
2. Could you please verify consistency in the ordinate axis as well as the legend for your the plots in figure 4?

Response to Reviewer #6:

1. The following sentences were added.

"All four mixes listed in Table 3 are standard mixes with different levels of alkali loadings (1.7 to 5.3 kg/m³). The use of a high-alkali (Na₂O_{eq} = 0.82%) Type I/II Portland cement and adding extra NaOH pallets were adequate to achieve the alkali loading of 5.3 kg/m³. The water-to-cement ratio (0.45) and coarse aggregate factor (0.76) remain constant for all the mixes. The mixes with high alkali loadings (i.e., alkali boosted mix with 5.3 kg/m³) are similar to standard mixes specified for ASTM C 1293."

2. Figure 4 has been modified.