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Dear Editor,

We appreciate the opportunity to revise and resubmit our paper titled “***Durability of alkali activated slag in a marine environment: influence of alkali ion*”.** We highly appreciate the positive feedback from the reviewer.

Following your suggestions, we have considered the comments provided by the reviewers and modified our manuscript to address their concerns. We have included a response to the referee’s comments below.

We look forward to receiving your comments and thank you for consideration of this manuscript.

Sincerely,

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**REPILES TO REVIEWER COMMENTS - (A)**

**REPORT

The corrections improved the manuscript. However, few omissions were made.**

1. **Page 4, paragraph 2: The SiO2/Na2O and SiO2/K2O ratios of the solutions
obtained after mixing alkali hydroxide solutions with commercial silicate
solutions, i.e. these ratios in the alkaline activators used in this work,
should have been provided (in the revised version, it`s written "SiO2/Na2O"
for both of the solutions!)**
* We provided the data related to the SiO2/Na2O and SiO2/K2O ratios of the solutions obtained after mixing alkali hydroxide solutions with commercial silicate solutions. The SiO2/Na2O and SiO2/K2O molar ratios for Na- and K- activators were 1 and 1.2, respectively.

Moreover, the molar ratio "SiO2/Na2O" for K- activator was corrected as SiO2/K2O. (please refer page 4, paragraph 2. Changes are highlighted in yellow)

1. **Page 6, second paragraph, discussion regarding substitution of Na by K in
alkaline activator is not clear and it does not support the data given in
this paper.**
* We thank reviewer for bringing this point to our attention, and we agree with the reviewer that this part of discussion is not clear. We also feel that this part of discussion does not contribute to the overall discussion, and therefore the second paragraph in page 6. ( with exception the first sentence " *Moreover, it has also been reported that porosity of alkali activated materials can be varied by selection of alkali ion where less porous alkali activated materials are produced when sodium is progressively replaced by potassium.*29 ") is omitted in the revised version of the manuscript.
1. **Page 9, last line: ...loss of 2.5%...**
* Correction is made. Changes are highlighted in yellow.

**REPILES TO REVIEWER COMMENTS - (B)**

**REPORT:

After reviewing the authors have significantly improved the quality of their paper. However, few minor issues require additional attention before publishing.**

1. **So called “protective layer” does not seem to be a proper term since it
might be associated with some kind of surface protection that was applied on
AAS prior to the seawater attack. “Corroded layer” or “degradation
front” seems to be more proper term since the chemistry of AAS surface
layer was significantly modified due to the exposure to seawater.**
* We used the term “corroded layer” instead of “protective layer” and we have revised our manuscript accordingly. Changes are highlighted in yellow.
1. **Both XRD and XRPD were used throughout the manuscript. Although they have
the same meaning, consistency is required i.e. one abbreviation should be
omitted.**
* We thank the reviewer for pointing out this oversight. We used the abbreviation XRPD and made appropriate changes in manuscript.