

Bending fracture process of corroded/healthy RC short scale beams based on AE measurement

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ABSTRACT

This study aims to evaluate the failure mechanisms of healthy and corroded RC beams under bending, which was identified by AE analysis. It is achieved through bending testing up to the failure of small-scale RC beams under different conditions related to the progress in rebar corrosion. AE measurement is simultaneously performed to evaluate the failure process, and then the parameters of the recorded AE data are examined. Moreover, the effect of pre-existing damage caused by rebar corrosion on the bending fracture process could be evaluated in concordance with the corrosion level.

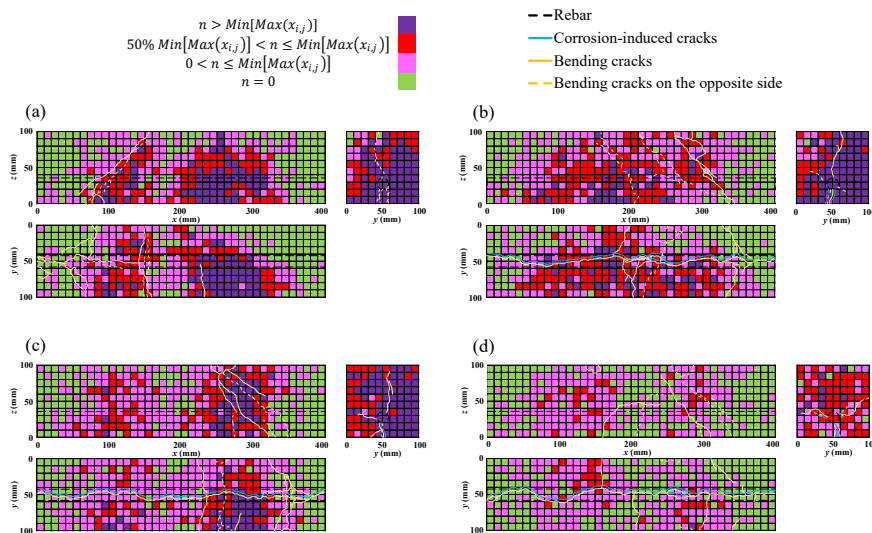


Fig. 1 AE sources concentration during bending tests. (a) healthy condition. (b) 0.9 % corrosion level. (c) 3.2 % corrosion level. (d) 9.3 % corrosion level

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