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Spotlight on *Structures*

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Volume 47 of *Structures* (January 2023) is now available to read at www.sciencedirect.com/journal/structures/vol/47.

As the Featured Article from this issue, Jason Ingham, Associate Editor for *Structures* has selected a paper that investigates the experimental and numerical pull-out behaviour of stud groups embedded in concrete. Tests were combined with finite element models to produce results and create a new design equation for the pull-out resistance of stud groups.

The article will be available free of charge for six months.

Editor's Featured Article

Pull-out resistance of stud groups embedded in concrete

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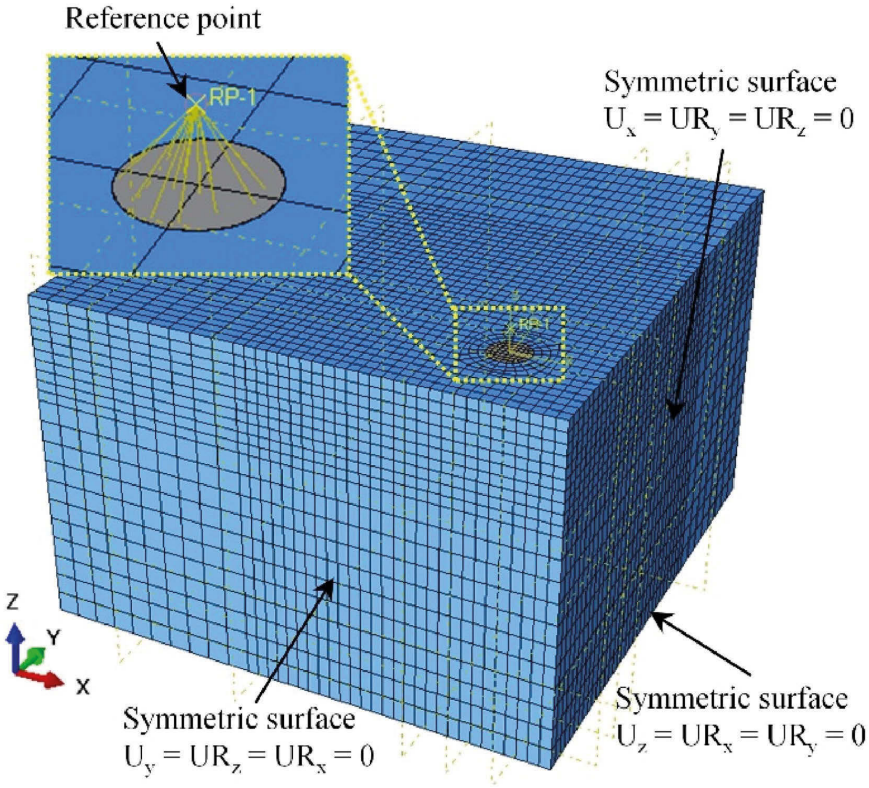
This paper experimentally and numerically investigated the pull-out behavior of stud groups embedded in concrete. Seven groups of pull-out tests were conducted to study the effect of the arrangement (i.e., single row and matrix) and spacing on the pull-out resistance. Results from the tests indicated that the strength reduction factor considering the group effect increased with increasing spacing (when the ratio to depth is less than 3.0) and was influenced by the arrangement. A detailed finite element (FE) model was also developed and benchmarked. The benchmarked model was then used to investigate: (i) the effect of the concrete strength and the number, spacing, and arrangement of studs, (ii) the force distribution among studs, and (iii) the tensile stress distribution along the concrete failure surface. Results from the FE analyses showed that the force resisted by the external stud was greater than the internal stud, and the stress decreased from the stud head to the concrete surface. Finally, a new design equation for estimating the pull-out resistance of stud groups was proposed.

→| Read the full paper at **https://doi.org/10.1016/j.istruc.2022.11.127**



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