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# Spotlight on Structures



## Read the latest issue

The Featured Article for Volume 61 of *Structures* is now available. Lei Wang, Associate Editor, has chosen an article on the shear behaviour of narrow joints in socket connections. This article is available to read free of charge.

## Editor's Featured Article

### Experimental study on direct-shear behaviour of narrow joints in socket connections for precast pier-to-pile footing systems

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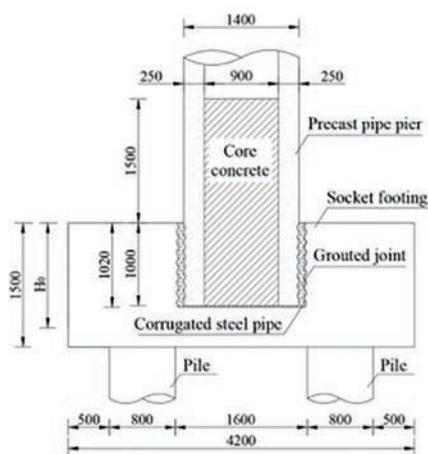
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The application of precast concrete segmental piers in modern construction,

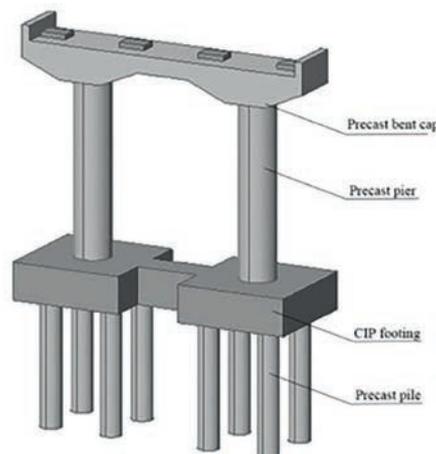
being economic and environmental, is an inevitable global trend. With the ease of construction and high performance, socket connections have a broad prospect for substructures, which can connect precast piers to footings with preformed sockets through narrow joints grouted by high-performance cement-based materials. However, these joints are different in direct-shear behaviour than those in precast concrete segmental beams. In this study, the direct-shear behaviour of narrow joints in socket connections for precast pier-to-pile footing systems is investigated through experimental analysis. The joint specimens

were designed as full-scale local models for push-out tests. The results reveal that improving the tensile strength of the grouting material by applying steel-fiber reinforced concrete or self-compacting concrete, decreasing the width of the joints and increasing the number of shear keys are all beneficial to improve the direct-shear performance, while the use of corrugated steel pipes as a stay-in-place formwork without additional reinforcements in footings reduces this characteristic.

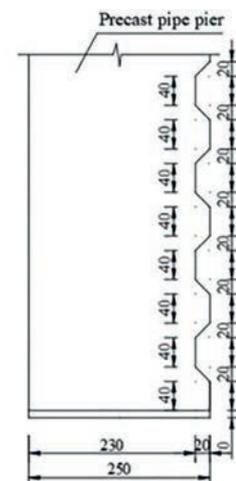
→ Read the full paper at <https://doi.org/10.1016/j.istruc.2024.106006>



(a) Test prototype



(b) Overall structure of the project



(c) Shear keys



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