

total of 10 combination of panels were used considering the major parameters for construction of dimension stone claddings: drilled hole diameter for dowel pin connection, use of insulator, support, and epoxy treatment for the stone panels.

The major findings of the shaking table test are summarized as follow:

1. The stone panels without insulator (Specimens H5, H6-E, H7, H7-E) were robustly attached to the RC wall until the final excitation step (PGA = 2.336 g) and any vertical displacement was not observed.
2. The hole size (hole diameter of 5, 6, and 7 mm) or use of epoxy plastering at the anchorage did not affect the failure mode.
3. In the stone panels with the insulator and without the supporters penetrating the insulator, large vertical displacement occurred from early excitation step. The use of epoxy plastering did not significantly prevent the large vertical displacement of the stone panels with the insulator.
4. Despite the insulator being installed between the RC wall and stone panel, the use of the shoe type supporters (H5-I-S and H7-I-S) significantly increased the seismic capacity up to that of the stone panels without insulator. This result shows that adequate detailed supporters can prevent excessive vertical deformation for the use of the insulator.
5. Due to bi-directional excitation, the pin escaping failure from the hole preceded out-of-plane shear failure. In the case of panels with insulator and without supporter, cautions are required against stone failing, and improvement for the connection details would be effective to prevent pin escaping failure.

REFERENCES

- Baek, J.-W., Kang, S.-M., & Park, H.-G. (2021). Direct shear test and cyclic loading test for seismic capacity of dimension stone panel cladding with dowel PIN connection. *Journal of Building Engineering*, 102205.
- Camposinhos, R. (2014). *Stone cladding engineering*. Netherlands: Springer.
- Pires, V., Rosa, L., Infante, V., Amaral, P., & Pacheco, A. (2012). Effect of dowel Fixing Conditions on Anchorage Rupture Loads and Rupture Angles of two Portuguese Granites. *Portuguese Conference on Fracture*, 105(11.01), 1-11.
- West, D. G., & Heinlein, M. (2000). *Anchorage pullout strength in granite: design and fabrication influences*. West Conshohocken: PA: ASTM International.