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Towards a simple compressive strength test for earth bricks?

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Abstract There is an increasing demand for earth construction in the world today but there is no consensus on the procedure to be used to measure the compressive strength of earth bricks. The study presented in this paper aims to propose a test procedure specific to earth bricks that would give the most realistic value of compressive strength while remaining as simple as possible. This study focused on four different bricks and consisted of measuring the compressive strength of these specimens by varying several parameters: specimen size, orientation, use of Teflon capping or not, and tests on dry sawn

specimens, on half-bricks or on entire bricks. The results of the study show that the best compromise to achieve a simple and representative compressive strength test for earth bricks is to transform the bricks as little as possible before the test and thus to test entire bricks.

Keywords Earth bricks · Compressive strength · Procedures · Standards · Aspect ratio · Confinement

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