

https://dspace.org/

An investigation into the shear bond strength of masonry

Couroupis, Isidoros

2015-04-28
http://hdl.handle.net/10539/17547

Downloaded from a DSpace repository. https://dspace.org/

ABSTRACT

This study was undertaken to investigate the shear strength of masonry. Specimens were produced and tested. The failure mechanism, the peak shear strength as well as the force deflection curves for all specimens were recorded. The specimens failed at the shear bond eighty percent of the time. The positions in a wall where the bricks are attached to the mortar when constructing the wall, produces a weaker brick mortar bond than, where the mortar is applied to the bricks. The characteristic shear strength equations obtained for a double and a single wall through experimentation, gives shear strength values respectively of 4.2 and 2.8 times greater than the recommended equations of the European and South African codes of masonry design. After 3 mm differential settlement, a wall has to be repaired due to the rapid increase in shear stresses.