

Effect of Mortar Shrinkage on In-Plane Stresses in Clay Brickwork

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Abstract:

Effects of mortar shrinkage on in-plane stresses in restrained clay-unit masonry are studied. The influences of mortar shrinkage strain and mortar elastic modulus on masonry tensile stress are examined for brick-mortar panels fully restrained against translation along four edges. A summary of past related research on this topic is presented. Elastic finite element models are used to examine the sensitivities of mortar and unit tensile stresses to mortar shrinkage and stiffness. A recommended plan for future experimental research is given.

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