

## The Optimal Location of Brickforce in Brickwork

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**Abstract :** A brickforce is a product consisting of two main parallel wires joined by in-line welded cross wires. Embedded in the normal thickness of the brickwork joint, the wires are manufactured to a flattened profile to simplify location into the mortar joint without steel build-up problems at lap positions corners/junctions or when used in conjunction with wall ties. A brickforce has been in continuous use since 1918. It is placed in the cement between courses of bricks. Brickforce is used in every course of the foundations and every course above lintel height. Otherwise, brickforce is used every fourth course in between the foundations and lintel height or a concrete slab and lintel height. The brickforce strengthens and stabilizes the wall, especially if you are building on unstable ground. It provides brickwork increased resistance to tensional stresses. Brickforce uses high tensile steel wires, which can withstand high forces but with a very little stretch. This helps to keep crack widths to a minimum. Recently a debate has opened about the purpose of using brickforce in single-story buildings. The debate has been compounded by the fact that there is no consensus about the spacing of brickforce in brickwork or masonry. In addition, very little information had been published on the relative merits of using the same size of brickforce for the different atmospheric conditions in South Africa. This paper aims to compare different types of brickforce systems used in different countries. Conclusions are made to identify the point and location of brickforce that optimize the system.

**Keywords :** brickforce, masonry concrete, reinforcement, strengthening, wall panels

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