

# CHAPTER 13

## Construction of Walls



## CONSTRUCTION OF WALLS

The correct method of building is to erect corners using a gauge rod. The corner bricks should be perfectly perpendicular and also level. After the erection of the two corners, the area between is filled in, laying each course carefully to a line strung taut between the corners.

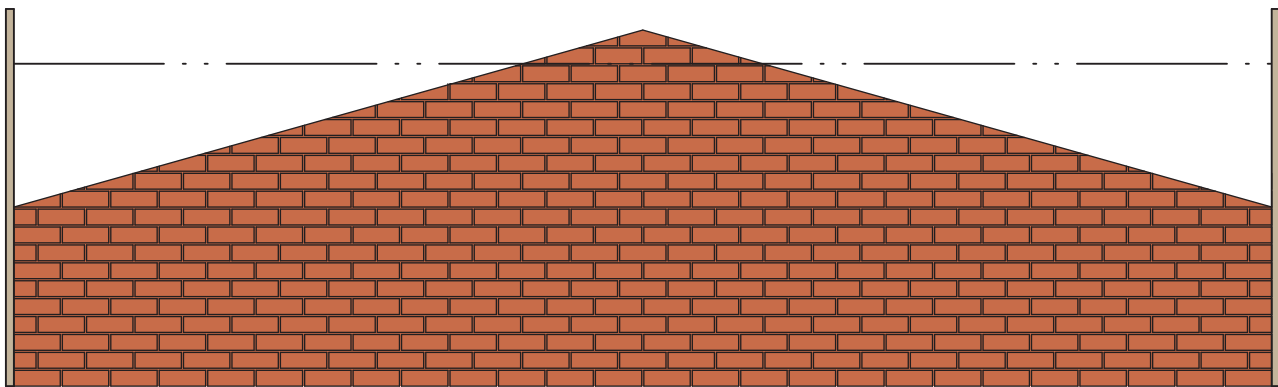
### Use of aids

To provide temporary corners along the length of the wall and instead of building up corners, profiles are erected. The profiles comprise of a vertical section equal in height to a storey (wall height) and one or more stays.

The vertical section can be either a straight piece of timber, 50 x 75mm in size, or a length of hollow, square tubing. The latter is most suitable as it does not get damaged easily by the handling on site. The stays can also be of the same material as the upright or scaffold boards.

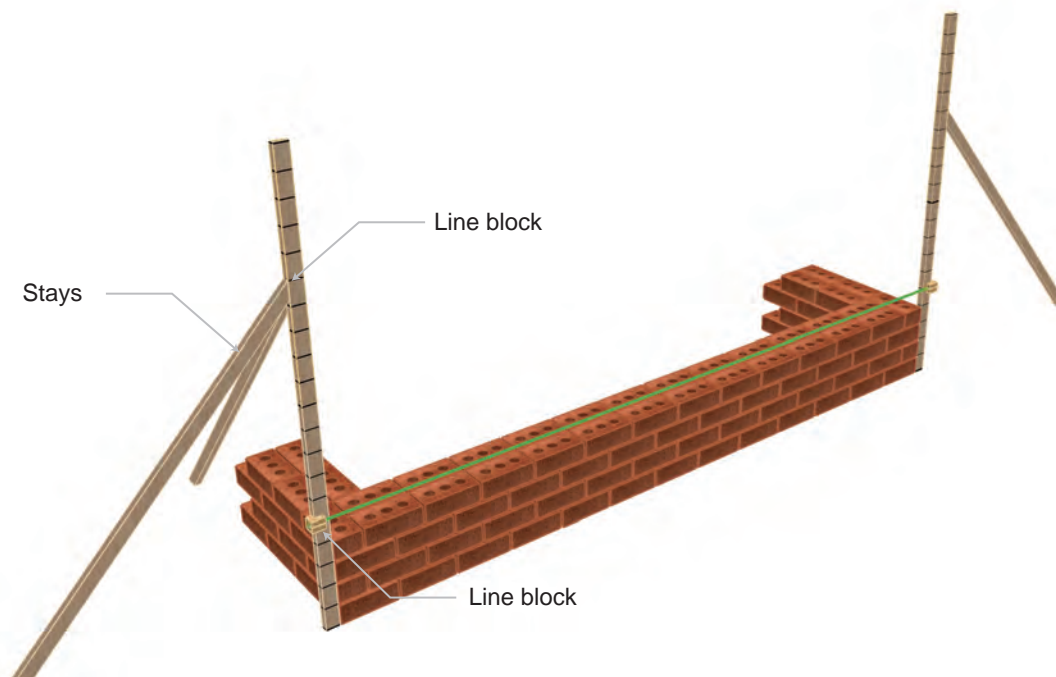
When building the triangular brickwork at gable ends, it is necessary to erect two profiles at each corner, as shown in the illustration below.

Employing profiles will make the building-up of the brickwork relatively easy.



Gable End

### 13.1a - Profile method.



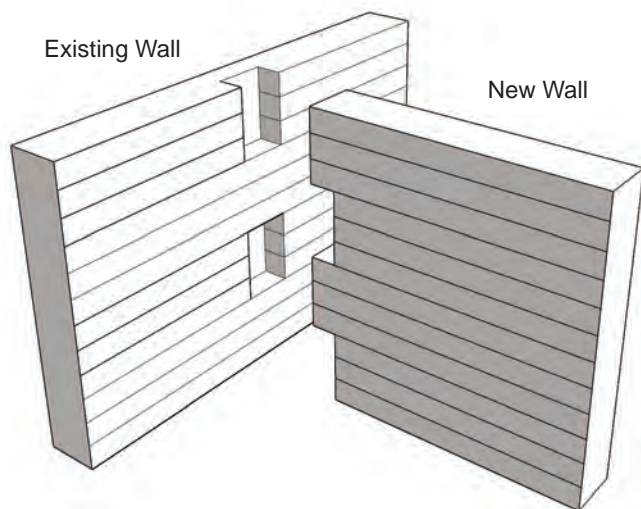
### 13.1b - Profile method.

## Additions

There are basically two bonds which can be used when joining new additions onto existing brickwork, i.e. block bonding and tothing.

### Block Bonding

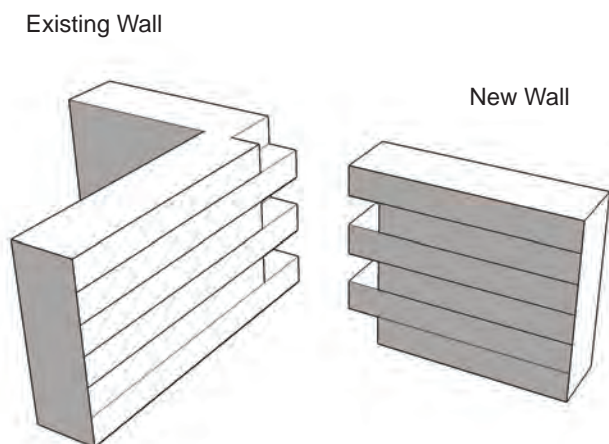
Block bonding means cutting out three or more courses and leaving an equal number. The new wall fits into the old as shown below. This method is recommended.



13.2 - Block bond

### Tothing

Tothing means cutting out a brick in every alternative course. When joining face brickwork onto existing, this method is used as it is very necessary to maintain the bond. The joints must however be filled properly, especially the upper joints of each indent.



13.3 - Tothing

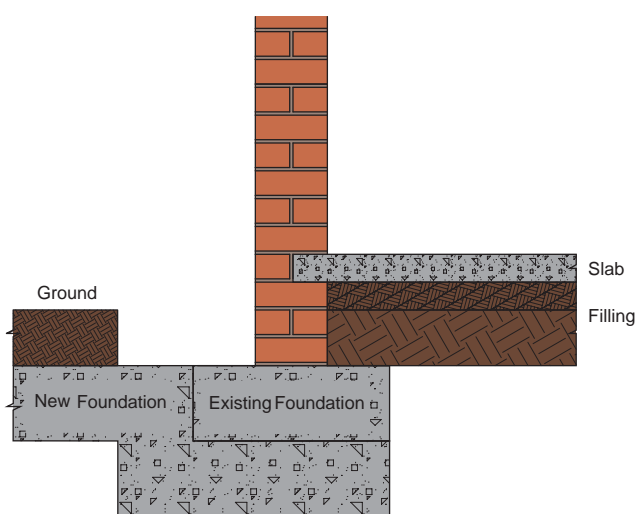
## Underpinning

To ensure a proper bond without a vertical crack when joining new walls to old, it is advisable to underpin the existing concrete foundation.

Underpinning means to strengthen the existing foundation. The illustration below shows how the foundation continues underneath the existing concrete foundation.

The concrete underneath adds to the strength of this very weak point where new work is added onto old brickwork that has settled properly over the years.

The underpinning, as illustrated, is accomplished by excavating a cavity below the existing foundation approximately equal to the width and depth of the trench of the new foundation, and filling properly with concrete, as shown.



13.4 - Underpinning

## Gable ends

Most domestic buildings today have one or more gable ends. When the gable ends are built-up, certain bylaws apply, e.g. precast lintels over the openings.

*See photos overleaf*

## PHOTOS REQUIRED - CBA

A gable end with a window and then above it a precast lintel.

## PHOTOS REQUIRED - CBA

A gable end over a double garage door. Here, it is very easy to see why it is necessary to insert a precast lintel. The weight of the brickwork above may have collapsed the arches below.