

# CHAPTER 12

## Windows, Doors & Window Sills



# WINDOWS, DOORS & WINDOW SILLS

## Notes on setting up a window.

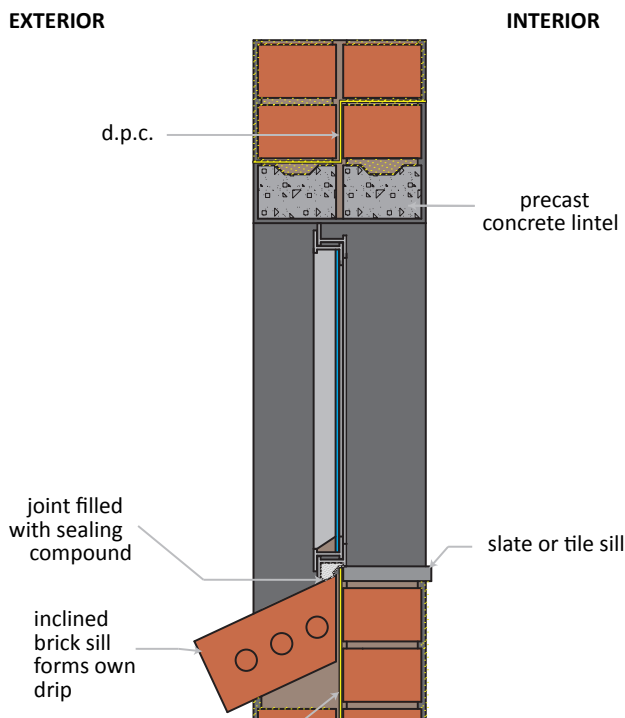
Points to consider before setting up the window frame:

### Method employed to span the window opening in the wall:

Plastered finish	: Pre-cast lintels can be used.
Unplastered finish	: Brick lintels
Brick flat	: Stretcher course
Brick on edge	
Brick on end	

### The height of the windows

Normally the tops of all doors and windows are on the same level, unless otherwise indicated on the plan.



12.1 - Solid wall construction (Detail suitable for Highveld)

Stand the gauge rod next to a positioned door frame and transfer this height onto the gauge rod.

### The actual position of the window in the wall

Generally the window frames are positioned in the centre of each room on the outside wall, unless otherwise indicated on plan.

### If a number of similar size windows are to be built in

For example a hall or large room, and the outside finish is an unplastered finish (face-brick), the arrangement of the bonding must be looked at on the first course of the super-structure to ensure whole bricks in the small brick panels between the windows.

Welsh Arch:

A brick cut wedge-shaped like a key brick, and usually supported by two projecting stretchers. It is used for small openings only (See photo 65).

### Damp-proofing

A damp-proof course (D.P.C.) is placed on the floor slab wherever exterior and interior walls will be built. A damp-proof course must also be installed underneath the external sill. (See Figure 12.1 and Figure 11.23). In solid wall construction, vertical D.P.C. in the reveals is necessary to prevent water migration from the outside face of the wall through to the inside (See Figure 12.2)

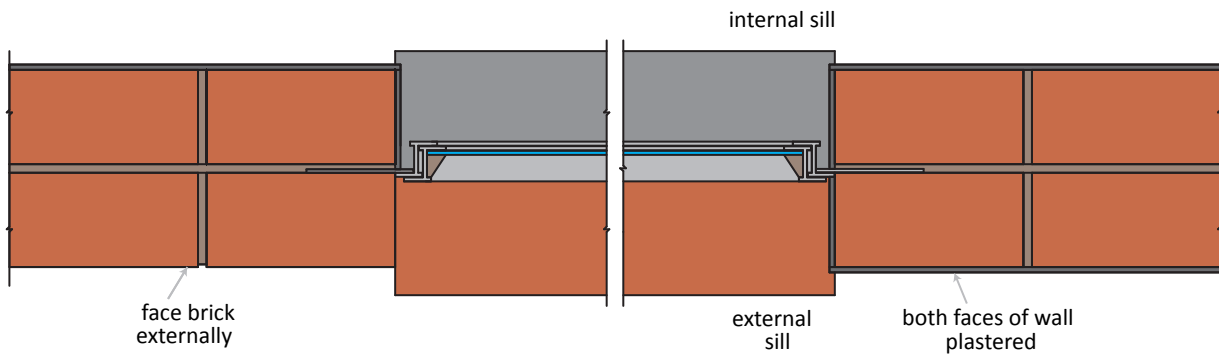
### Positioning

- Ensure that the parts that open on the frame (sashes), open outwards.
- Build up the wall.
- Place two bricks flat across the wall. The window frame will be placed on top of these bricks.
- The window is generally positioned in the centre of the panel.

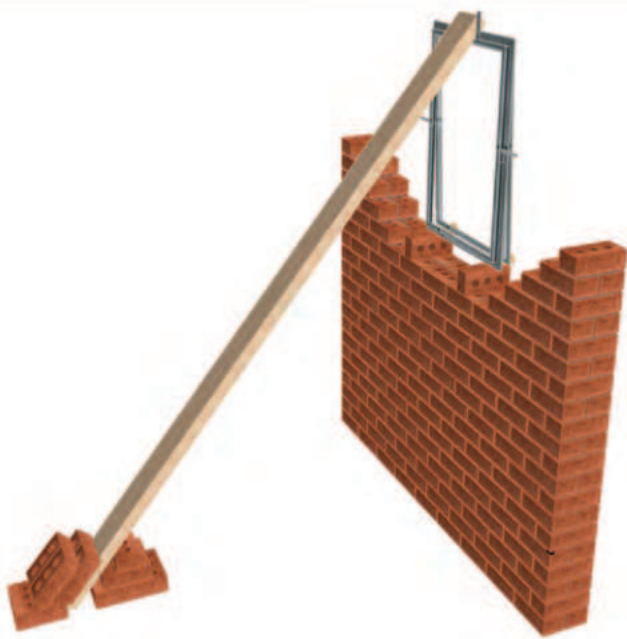


#### DID YOU KNOW?

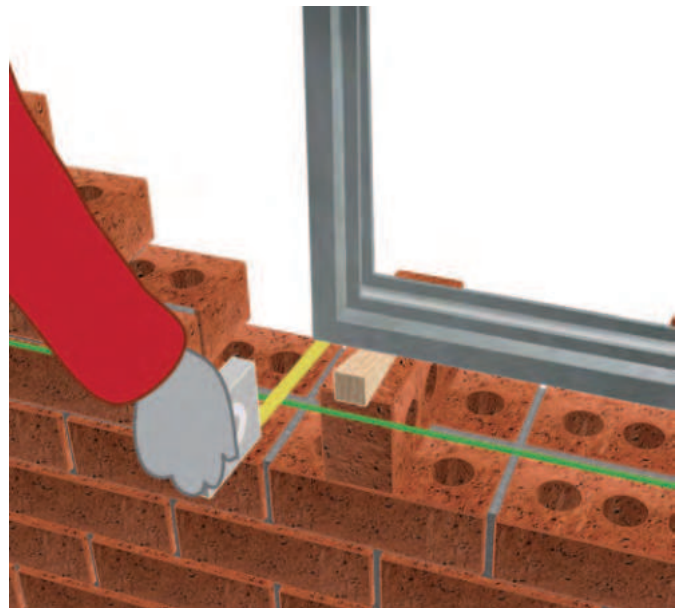
In the 18th and 19th centuries Window Tax was a property tax based on the number of windows were in a house. To avoid the tax some houses from the period can be seen to have bricked-up window spaces ready to be glazed at a later date.



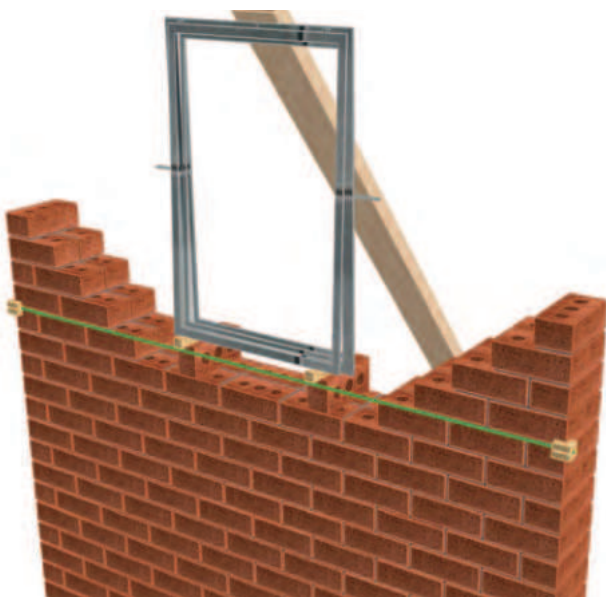
12.2 - Solid wall construction (Detail suitable for Highveld)



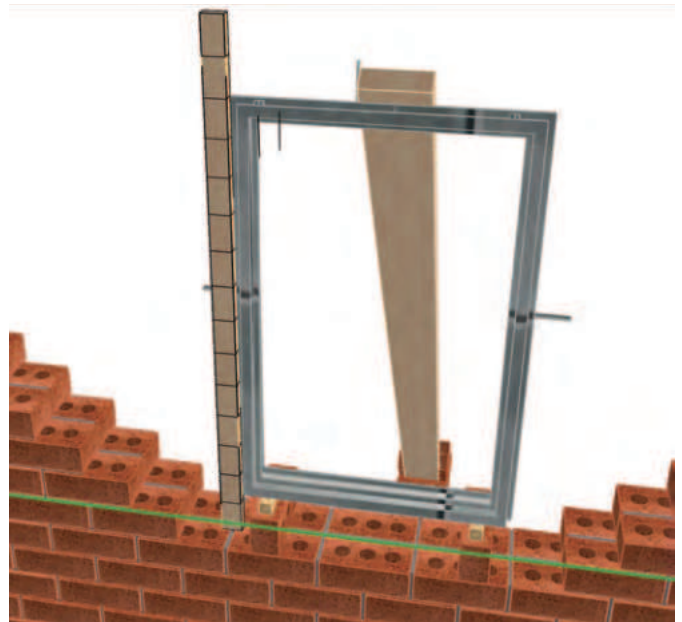
12.3 - Securing window frame in position. Large frames will need two supports one at each end. Supports comprise of a scaffold with a nail driven in the centre, which is hooked over the frame to act as a firm support whilst building in. Secure the base of the board with bricks.



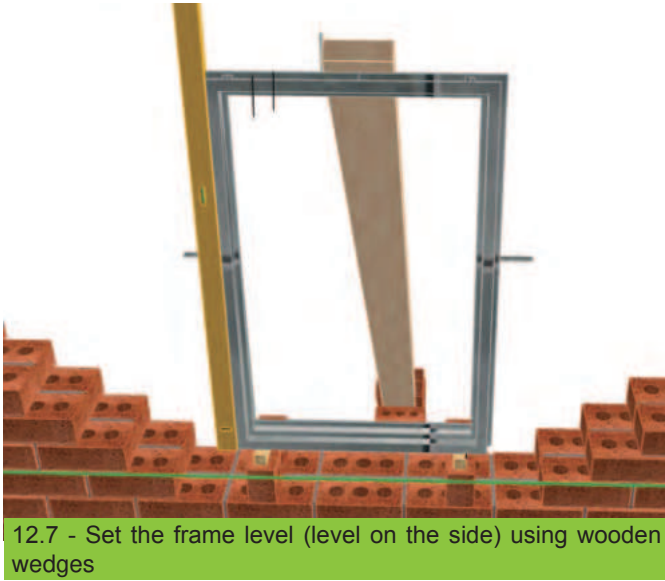
12.5 - To ensure that the frame is set parallel with the face of the wall measure back from the line to the frame on both ends of the frame.



12.4 - Bring on a line on the face side of the brickwork.



12.6 - Use your gauge rod and set up the window to the correct height. NOTE: The top of the frame is the thickness of a mortar joint higher than the corresponding mark on the gauge rod. (Stretcher course Lintel.)



12.7 - Set the frame level (level on the side) using wooden wedges

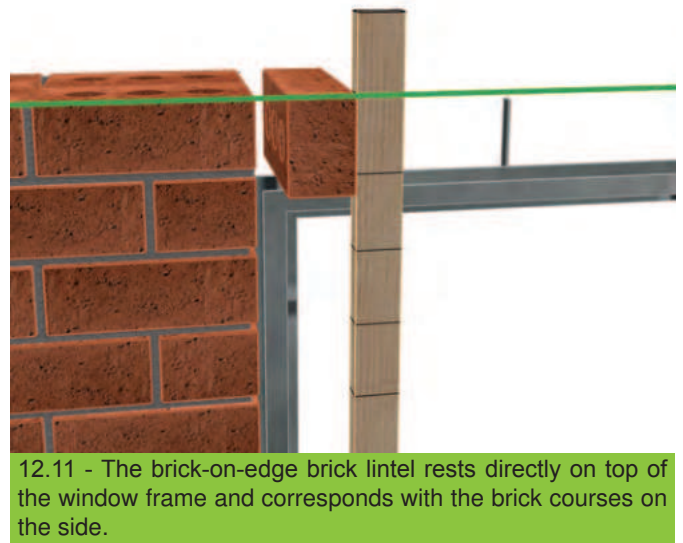


12.10 - The built in window frame projects above the brickwork by a joint thickness.

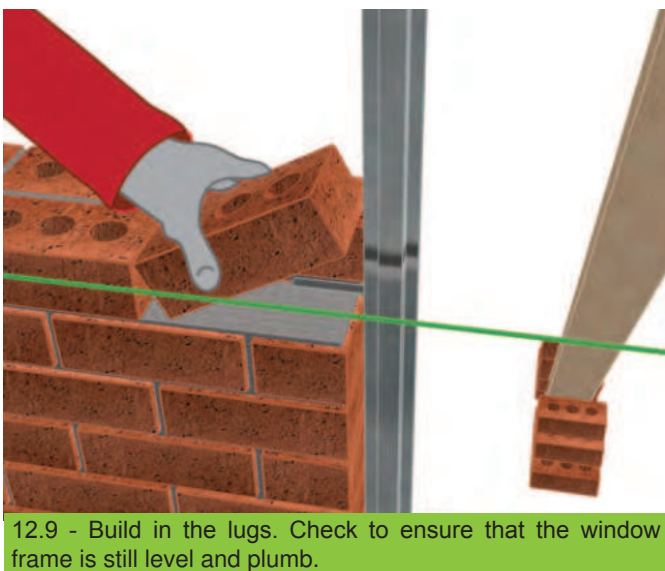


12.8 - Set the frame plumb (level in front) by adjusting the support.

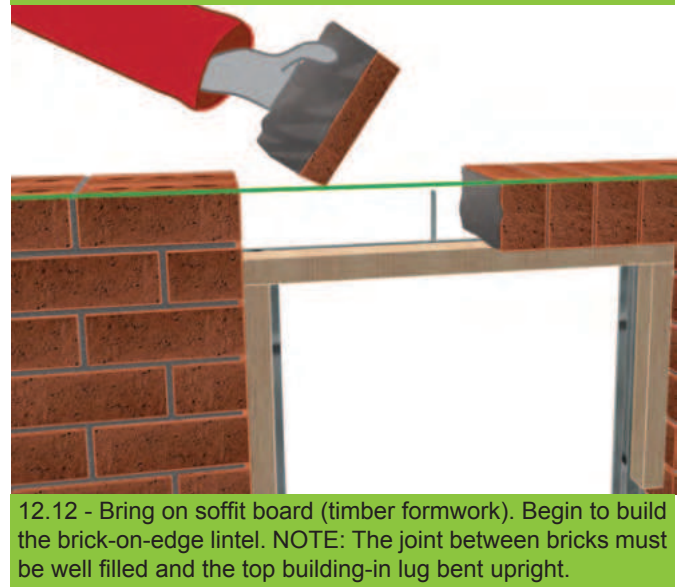
### Brick-on-Edge Lintel



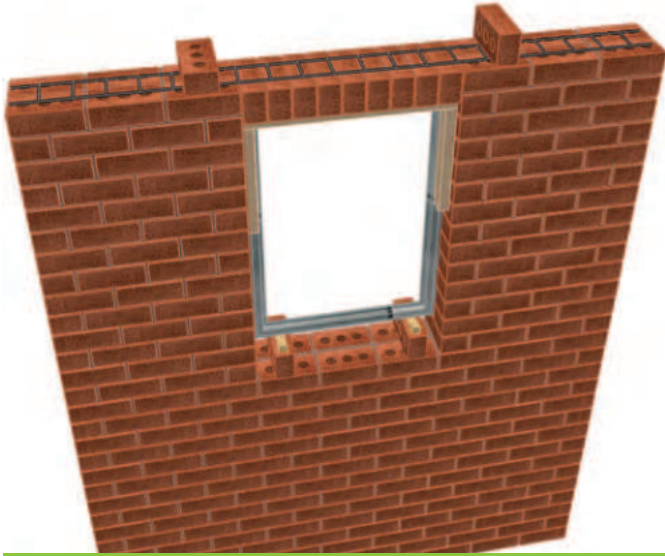
12.11 - The brick-on-edge brick lintel rests directly on top of the window frame and corresponds with the brick courses on the side.



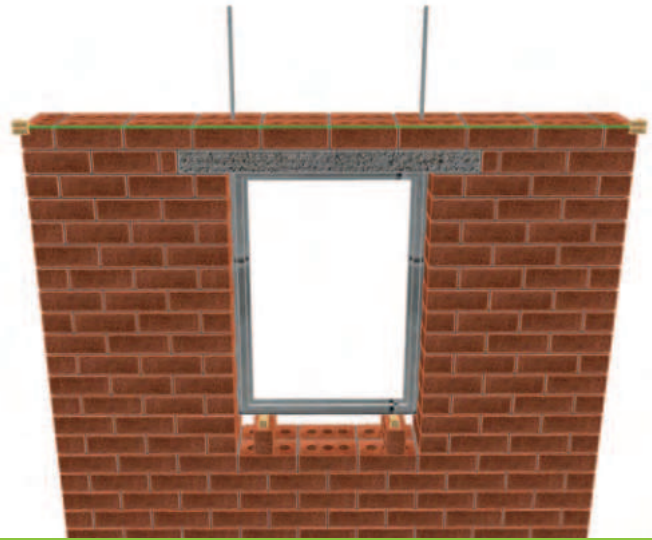
12.9 - Build in the lugs. Check to ensure that the window frame is still level and plumb.



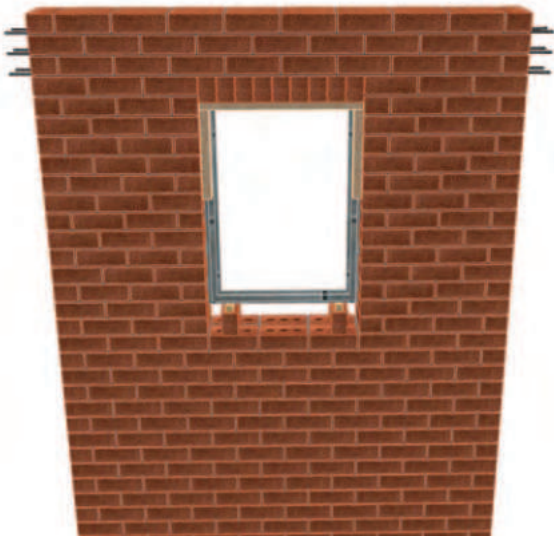
12.12 - Bring on soffit board (timber formwork). Begin to build the brick-on-edge lintel. NOTE: The joint between bricks must be well filled and the top building-in lug bent upright.



12.13 - Brick reinforcement is built-in in the next three courses.



12.16 - Completed project showing built-in pre-cast lintel and roof wire ties.

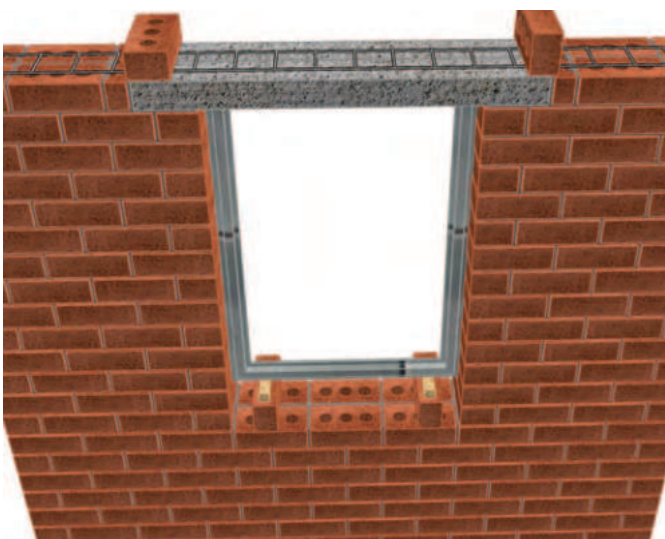


12.14 - The completed project. NOTE: The positioning the arch (Welsh Arch) over the window opening.

### Building in Sills



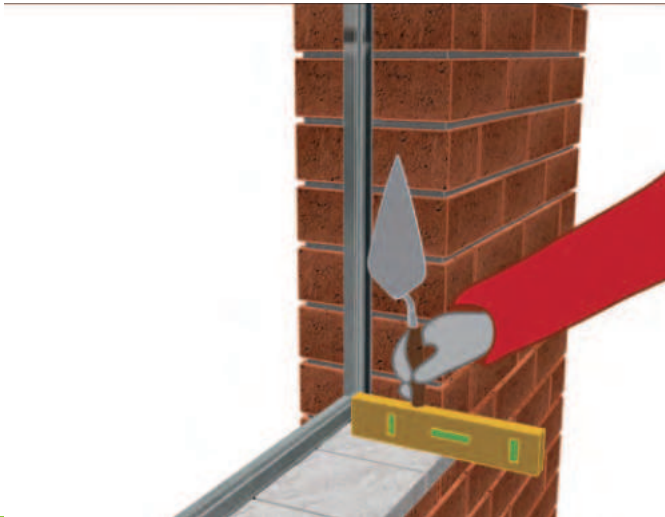
12.17 - Pre-cast concrete external sill laid sloping. NOTE: The undersill D.P.C.



12.15 - The opening can also be crossed by means of pre-cast lintel.



12.18 - Brick-an-edge external sill. The slope of the sill is measured to ensure an equal slope on all the external sills of a particular building. NOTE: The placing of the undersill D. P. C.



12.19 - Install the internal sill level.

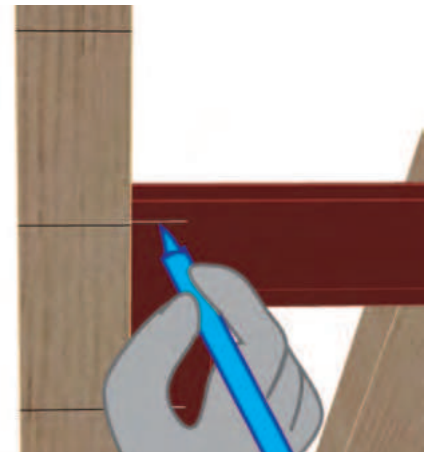
### Building in Doors



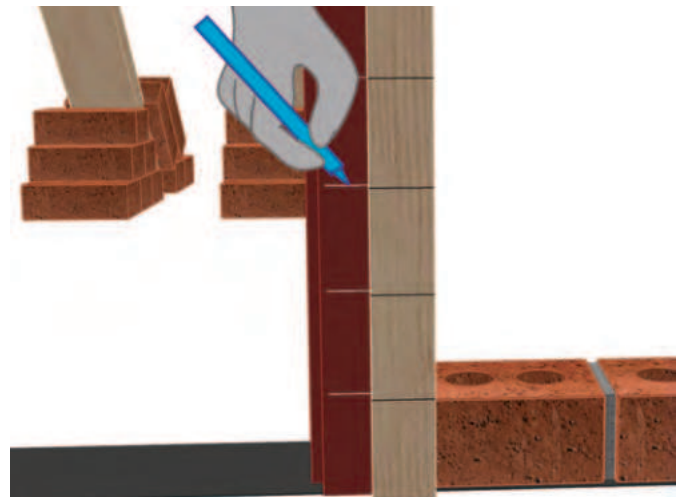
12.20 - Doorframe set upright in position on top of the D. P. C. As with window frames the door frame is secured in position with temporary supports.



12.21 - Front view of the door frame. NOTE: The lugs and the centre strut (dwang) that is installed to prevent the frame from bulging in during building-in operations.



12.22 - Transfer course heights from the gauge rod to the door frame starting at the top. Adjust by means of wedges.



12.23 - Repeat on the other side of frame.



