

BRICK VENEER CONSTRUCTION

A brick veneer wall is constructed by having a non-structural external layer, usually with bricks and it is backed by an air cavity.

The innermost element of this type of wall is structural can consist of wood, metal framing or masonry.

A brick veneer construction has many advantages over solid masonry. It shares some of the advantages of a cavity wall.

A brick veneer masonry wall is light weight, thermally efficient and can help in reducing costs.

Some of the advantages of brick veneer construction are:

- * The airspace between the brick veneer wall and the structural element acts as a drainage system.

Weep holes are provided at the bottom so that any water that has penetrated is directed outside the building and not inside.

- * The cavity can be insulated and this improves the thermal performance of the wall.

- * The structural element can be constructed first and this allows the rest of the construction to proceed. The brick veneer can be completed simultaneously.

This saves money on construction time and labour.

- * A brick veneer construction takes less time to complete than a solid masonry wall which will give cost savings.

- * A veneer wall will weigh much less than a solid wall. Since the weight is less, the cost of the foundation and structural support can be reduced.

TYPICAL DESIGN OF A BRICK VENEER WALL:

A brick veneer wall consists of an outer layer of veneer. This veneer is tied onto the structural frame by using a corrugated metal sheet or metal wall tie. A 2-3 cm air cavity is provided.

Next is the water resistant barrier on the external sheathing and these are fixed on the structural frame. At the bottom, a fill cavity is provided with through wall masonry flashing.

The flashing should extend from outside the veneer face through its thickness, across the air space & onto the backing. It should be installed to a height of at least 20 cm up the backing.

Since this is a critical portion of the wall, only the best material should be used for flashing.

The water that collects in this cavity is directed outside the building through weeps, which are provided at the bottom of the brick veneer wall.

Since A Brick Veneer Construction Wall Is Not Load Bearing, It Needs Structural Support.

It has to be tied back to the building structure to prevent movement due to wind, hail, earthquakes etc.

However, care has to be taken so that the brick veneer does not compromise on the air cavity or its insulation. This is achieved by means of using brick ties.

Brick ties are usually corrugated metal straps fixed on the structural framing.

Wire extensions and horizontal joint reinforcement can also be used to tie the brick veneer to the structural frame.

Since the veneer bricks are self-supporting up to short heights, relieving supports are provided to transfer the weight of the veneer bricks to the structural frame.

MATERIALS USED FOR BRICK VENEER:

There are many suitable materials for masonry veneers.

The common materials used are: concrete, manufactured clay, artificial stones, natural stones etc. Unlike panelised products these have to be set in a mortar bed.

There is a wide array of products available in the market and they come in a wide range of colours, textures, sizes etc. The cost of a brick veneer will depend on the material chosen.

THERMAL PERFORMANCE OF BRICK VENEER WALLS:

Buildings which use a brick veneer type wall have much better cooling properties. The inside of the building remains cooler than other types of buildings.

In summer, this cooling property, keeps the building more comfortable at night. In reverse masonry veneer walls, the veneer is put on the inside and the frame and cladding are on the outside.

The advantage of this design is that the thermal mass is inside the building. A brick veneer wall has many advantages. It helps in reducing costs of labour and materials. The exterior of the building can be made to look aesthetic since wide choices of veneer bricks are available. Brick veneer walls are widely used in the construction industry.