

Brick Technical Bulletin - Fire Resistance

Concrete masonry in the form of Marshalls brick is a non combustible construction material possessing excellent fire resisting properties.

The resistance to fire within a structure utilising concrete masonry products is a function of:

1. The thickness of the units involved
2. The function of the wall, ie. whether or not it is load-bearing
3. Wall construction, ie. whether it is single leaf or cavity construction
4. The applied wall finish, whether plastered or otherwise
5. Finally, the type of aggregate used to produce the masonry units

Marshalls' products are all produced from Class 1 aggregates, are classed as non-combustible with a zero spread of flame, and are further classed as Category A1 in accordance with BS 13501-1.

The following tables indicate the nominal fire resistance periods for Marshalls' various types of masonry, ie. common and facing bricks. They are based on Table 14 of BS 5628: Part 3.

| Wall Thickness made from Brick | Fire Resistance in Hours | |
|-----------------------------------|--------------------------|-----------|
| | No Finish | VG Finish |

1. Load Bearing Single Leaf Wall

| | | |
|-------|---|---|
| 100mm | 2 | 3 |
| 140mm | 4 | 6 |
| 215mm | 6 | 6 |

2. Non Load Bearing Single Leaf Wall

| | | |
|-------|---|---|
| 100mm | 2 | 3 |
| 140mm | 3 | 6 |
| 215mm | 6 | 6 |

| Wall Thickness made from Brick | Fire Resistance in Hours | |
|-----------------------------------|--------------------------|-----------|
| | No Finish | VG Finish |

3. Load Bearing Cavity Wall

| | | |
|-------|---|---|
| 100mm | 6 | - |
| 140mm | 6 | - |
| 215mm | 6 | - |

4. Non Load Bearing Cavity Wall

| | | |
|-------|---|---|
| 100mm | 6 | - |
| 140mm | 6 | - |
| 215mm | 6 | - |

Notes:

- Marshalls bricks are produced in a minimum thickness of 100mm.
- Finishes should be not less than 13mm plaster on each face of a single leaf wall and the exposed faces of a cavity wall.
- VG is Vermiculite: gypsum plaster.
- The thicknesses quoted are in millimetres and represent the work size of the unit or, where applicable for solid walls, the sum of the work sizes for two units including the joint between them.