Wall and Footing Types

CE332

Spring 2013

Classification of masonry walls according to their load carrying functions

- Bearing walls (taşıyıcı duvarlar)
  - A wall which carries its own weight plus any vertical load that comes from the concrete
- Non-bearing walls
  - They don't carry any other load than their own weight

Classification based on wall location

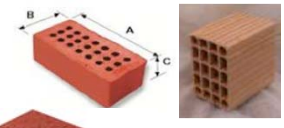
- Exterior walls
- Interior walls

Classification according to the material used

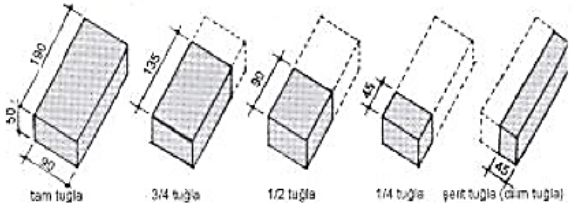
- Stone masonry
- Brick masonry
- Concrete masonry

Brick masonry

- Brick composition: clay, fine sand, and water
- Types of bricks
  - Ordinary
  - Factory: higher quality
  - Hollow: used for non-bearing walls, have good sound and thermal isolation, low strength
  - Fire Resistance: used in chimneys and kilns
  - Concrete bricks (briket): sand, fine gravel, cement
  - Cellular concrete (gaz beton)

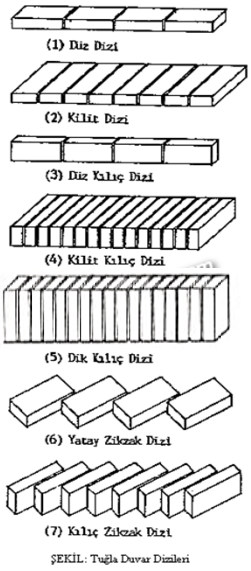


- **A common brick dimension: 190x90x50 mm**



Brick Masonry Wall Types

- Brick masonary bond (örme şekilleri)
  - Bull-stretcher bond walls (kılıcına örülmüş)
  - Stretcher bond walls (yarım tuğla)
  - Full brick walls (tam tuğla)
  - 1 ½ brick walls
  - 2 brick walls

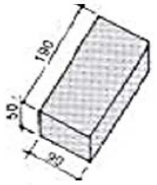


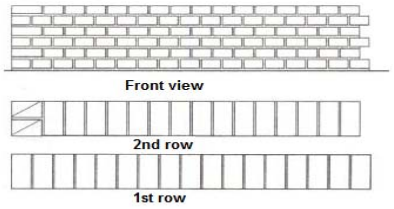
ŞEKİL: Tuğla Duvar Dizileri

Walls –Quantity Take-off

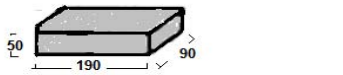
Full brick wall is calculated in m^3

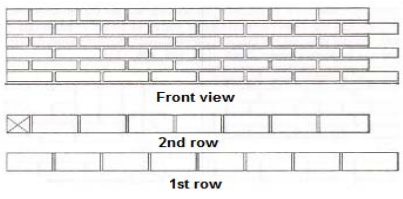
Stretcher bond wall is calculated in m^2



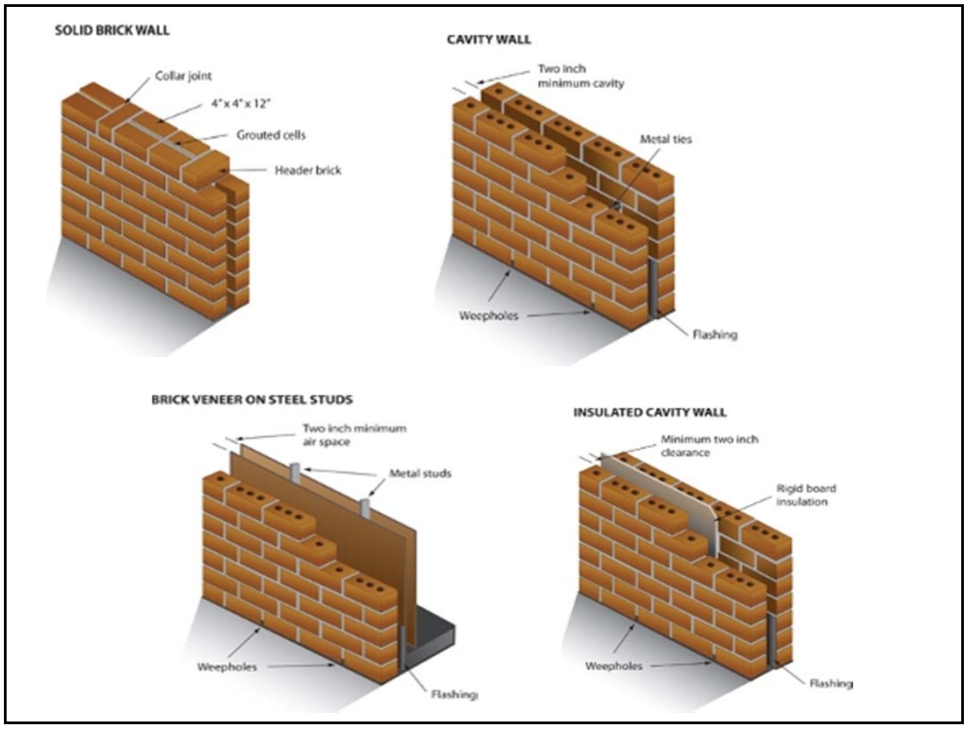


Full Brick Wall (Tam Tuğla)





Stretcher Bond Wall (Yarım Tuğla)

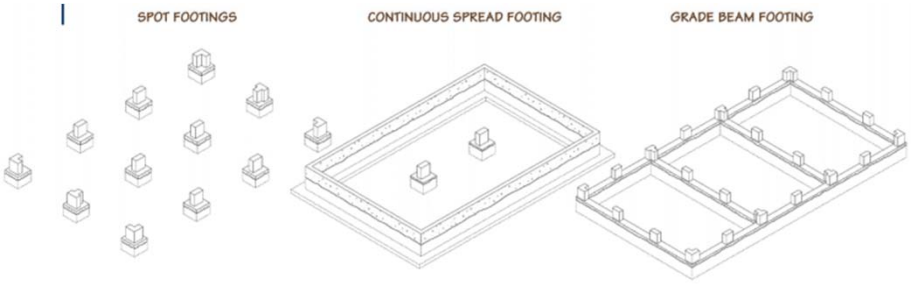


Foundation

- Foundation is the portion of the building that rests directly on soil and which transmits loads from the building to the soil

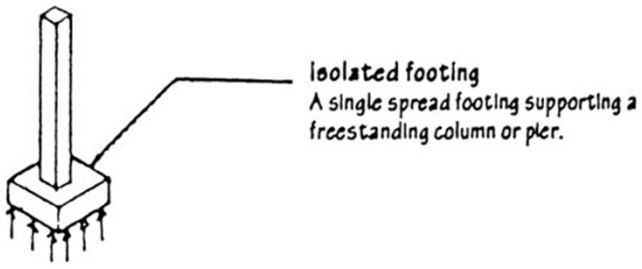
Footing Types

- Single (münferit temel)
- Continuous (mütemadi temel)
- Raft foundations (radye temel)



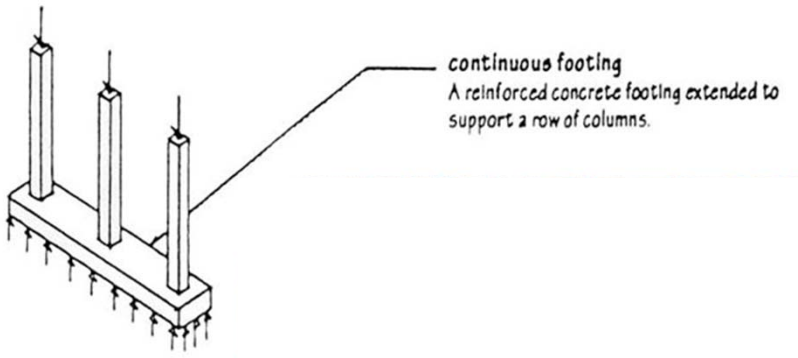
Footing Types

- Single
  - Independent column footing



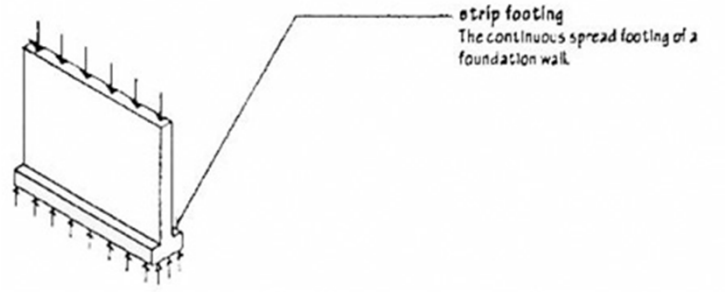
Footing Types

- Continuous



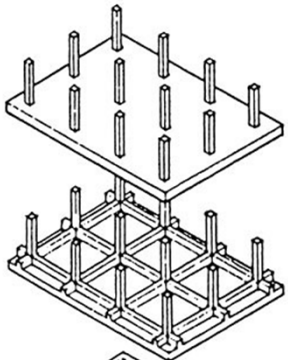
Foting Types

- Strip footing



Footing Types

- Raft foundations
  - Used if the loads coming from individual columns is high and the soil is not very strong



mat
A thick, slablike footing of reinforced concrete supporting a number of columns or an entire building.

ribbed mat
A mat foundation reinforced by a grid of ribs above or below the slab.