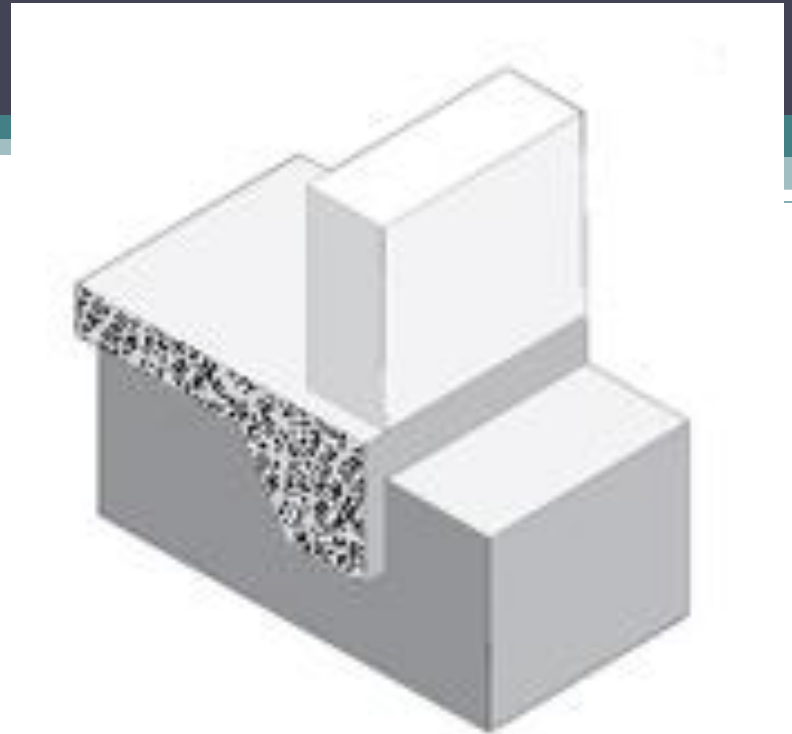


Raft Foundation Ground Floor Detail



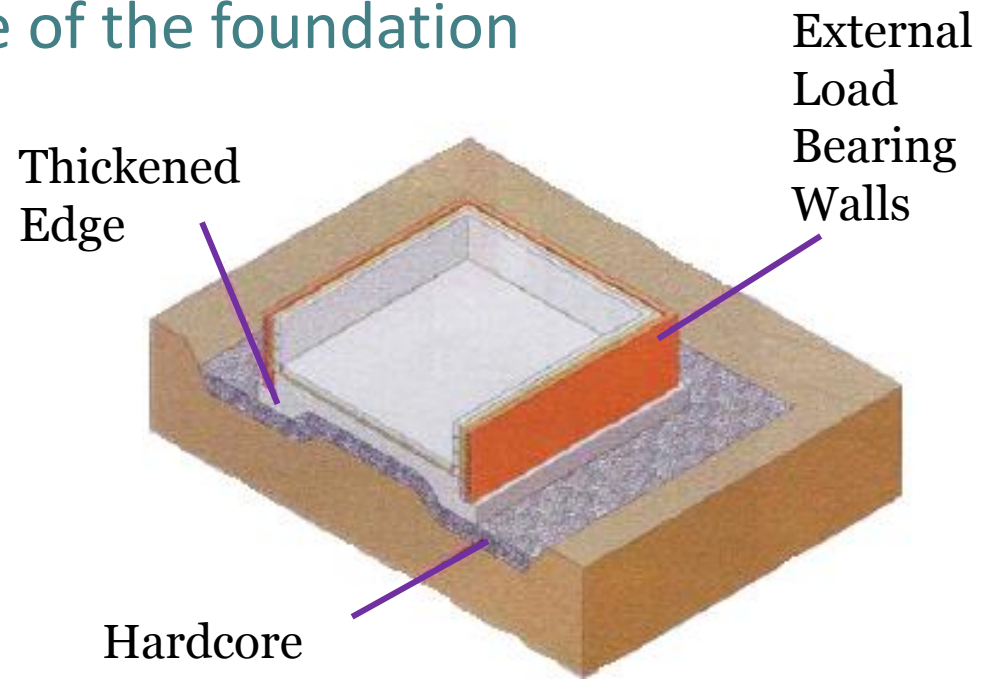
Rational of Raft Foundation

Why do we use a Raft Foundation?

- A raft foundation floats on the soil spreading the load exerted by the building over as wide an area as possible.
- Raft foundations are used on sites where the soil is of lower bearing capacity.
- An advantage of a raft foundation is that if settlement occurs, the building moves as a whole unit and differential settlement is avoided

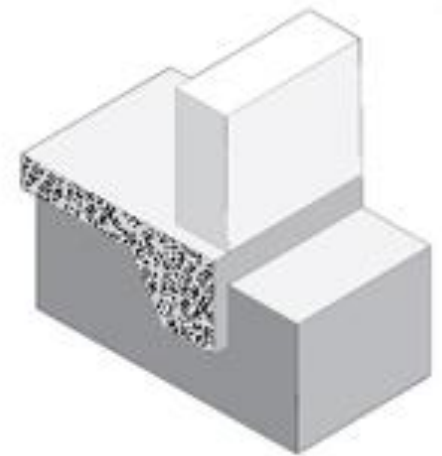
Anatomy of the Raft Foundation

- A raft foundation consists of:
 - A continuous slab of reinforced concrete
 - Thickened edge
 - Thickened underneath load bearing walls
 - Toe created at the edge of the foundation

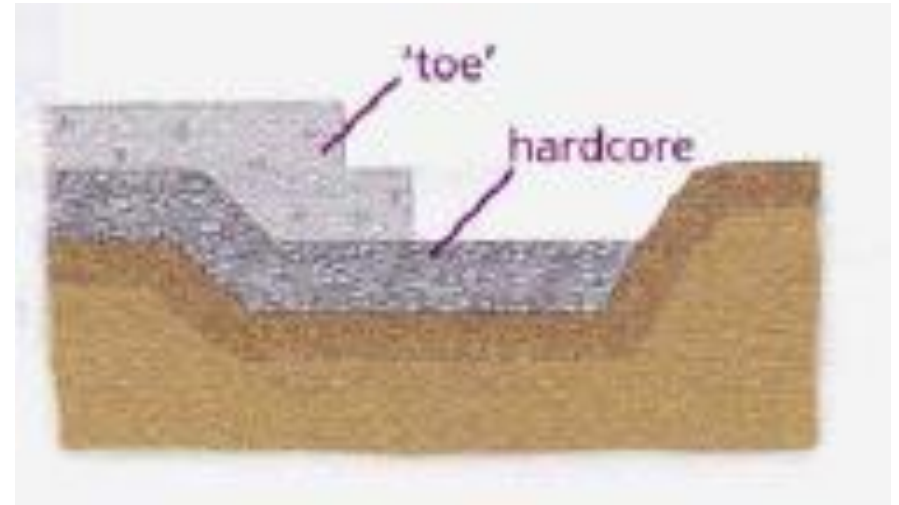


Thickened Edge

- Provides extra support to the area where load-bearing walls exert most load on the foundation
- This prevents the edge of the foundation from failing under the load of the walls



Toe



- The edge of the raft is usually stepped to create a toe
- The purpose of the toe is to allow the outer leaf to continue below the ground level thereby masking the edge of the raft

Steel Reinforcement

- These rods increase the foundation's tensile strength (can carry more weight)



Cavity

The cavity in a cavity wall:

- Prevents moisture from passing from the outside of the house to the inside of the house
- Acts as an insulator as the air is a natural insulator



Damp Proof Course (DPC)

- The damp proof course is placed in a course of block work to prevent moisture getting up the walls from the ground through capillary action



100mm Insulation

- Insulates the house from the cold outside air and also stops the warm air from escaping out through the walls



Hardcore

- Compacted in layers no more than 225mm
- The hardcore is in place to support the floor
- If it was not used then the floor would be liable to sink into the ground as the soil would not be able to hold it up alone
- The hardcore bed must be a minimum of 150mm



Radon Barrier



- Radon is a naturally occurring gas in the ground in Ireland
- It is produced by the decomposition of radium
- It is harmful due to its radioactivity
- The radon barrier reduces the amount of this harmful gas that enters the house

60mm Rigid Insulation

- This is in place so that heat is not lost through the floor
- It also prevents condensation forming on the floor (especially if ceramic tiles are the finish on the floor)



Concrete Slab

- The concrete slab gives a finished floor level for the ground floor
- Distributes the load of furniture and people into the ground

