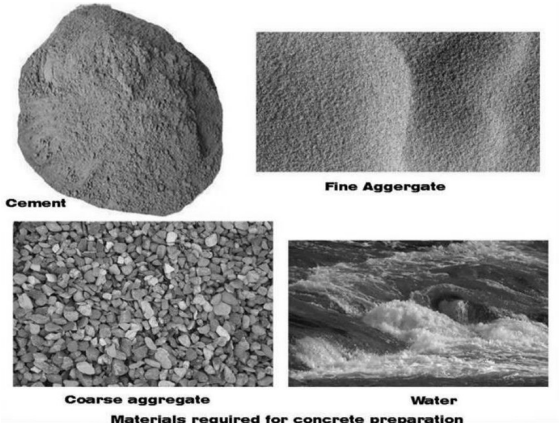
Types of Cement Concrete

1. PLAIN CEMENT CONCRETE

- The intimate mixture of cement, sand, coarse aggregate and water is known as plain cement concrete. Uses of plain cement concrete is listed below:

1. As bed concrete below the wall footings, column footings and on walls below beams.
2. As sill concrete to get a hard and even surface at window and ventilator sills.
3. As coping concrete over the parapet and compound walls.
4. For flagging the area around the buildings.
5. For making pavements.
6. For making tennis courts, basket ball courts etc.

Constituents of cement concrete



Types of Cement Concrete

2. REINFORCED CEMENT CONCRETE

- Concrete is good in resisting compressive stress but is very weak in resisting tensile stresses.
- Hence reinforcement is provided in the concrete wherever tensile stress is expected.
- The best reinforcing material is steel, since its tensile strength is high and bond between steel and concrete is good.
- The composite material of steel and concrete, called R.C.C. acts as a structural member and can resist tensile as well as compressive forces efficiently.

Properties of cement concrete

1. It has high compressive strength
2. It is weak in tension
3. It is free from corrosion
4. It hardens with age . The process of hardening continues for along time after the concrete has attained sufficient strength
5. It is more economical than steel
6. It has a tendency to be porous
7. It forms a hard surface , capable of resisting abrasion
8. It has high fire resistance
9. It is highly durable

Types of Cement Concrete

3. PRE-CAST CONCRETE

- The units or members are cast in separate forms before they are placed in the structure.
- These are cast at the building site or at a casting yard located some distance from the structure in which they are to be used.
- They are transported to the site of the structure by truck or some other means and finally placed in position by cranes or other devices.
- Pre-cast units require less scaffolding and form work.
- Concrete with better quality can be produced.

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2. REINFORCED CEMENT CONCRETE

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3. PRE-CAST CONCRETE

Types of Cement Concrete

2. REINFORCED CEMENT CONCRETE

- Uses of Reinforced cement concrete is listed below:

1. Footing, Columns, Beams, lintels
2. Water tanks, Dams
3. Bridges
4. Multistorey buildings
5. Towers
6. Highway pavements
7. Airport pavements

Types of Cement Concrete

4. PRE-STRESSED CONCRETE

- Prestressed concrete is a structural material that allows for predetermined, engineering stresses to be placed in members to counteract the stresses that occur when they are subject to loading.
- In ordinary reinforced concrete, stresses are carried by the steel reinforcement, whereas pre-stressed concrete supports the load by induced stresses throughout the entire structural element.
- This makes it more resistant to shock and vibration than ordinary concrete, and able to form long, thin structures with much smaller sectional areas to support equivalent loads.

Types of Cement Concrete

4. PRE-STRESSED CONCRETE