

Differentiate, distinguishes, compare and explain what the main difference between cement and concrete mixture. Comparison and Differences.

There are some misconceptions among so many that cement and concrete are same. There are some major differences between cement and concrete. They use the term cement and concrete interchangeably but in fact both are absolute materials. i.e. Cement and concrete are not the same but both have some specific kind of uses.

What is Cement

A mixture of compounds made by burning limestone and clay together at very high temperature ranging from 1400 to 1500°C. The production of Portland cement begins with the quarrying of limestone, CaCO_3 . Then mixed with clay (or shale), sand and iron ore and ground together to form a homogenous powder.

Cement is the main component of concrete. Its an economical, high-quality construction material used in construction projects worldwide. Cement is made from a mixture of elements that are found in natural materials such as limestone, clay, sand and/or shale. Cement is a much used product in construction and is usually gray. White cement can also be found but it is usually more expensive than gray. Providing quality cement is a matter of great concern for manufacturers, suppliers, and exporters.

What is Concrete

Concrete is a mixture of sand, gravel, crushed rock or other aggregate held together by a hardened paste of cement and water. This mixture, when properly proportioned, is at first a plastic mass that can be cast or molded into a predetermined size and shape. Upon hydration of the cement by the water, concrete becomes stone like in strength, hardness and durability.

Major difference between cement and concrete

1. Cement is actually an ingredient of concrete. Concrete is basically a mixture of aggregates and paste. The aggregates are sand and gravel or crushed stone; the paste is water and Portland cement.
2. Concrete gets stronger as it gets older. Portland cement is not a brand name, but the generic term for the type of cement used in virtually all concrete, just as stainless is a type of steel and sterling a type of silver.
3. Cement can only be mixed in small batches. Concrete can be mixed in large quantity.
4. Cement comprises from 10 to 15 percent of the concrete mix, by volume. Through a process called hydration, the cement and water harden and bind the aggregates into a rocklike mass. This hardening process continues for years meaning that concrete gets stronger as it gets older.
5. Cement act like a binding agent or glue. Concrete is an actual construction material.