

Artificial Sand - A Viable Alternative, An Alternate to River Sand in Concrete and Construction Industry, Manufacturing Plant, Detailed Project Report, Profile, Business Plan, Industry Trends, Market Research, Survey, Manufacturing Process, Machinery, Raw

Description:

The artificial sand produced by proper machines can be a better substitute to river sand. The sand should be sharp, clean and coarse. The grains should be of durable material. The grain sizes must be such that it should give minimum voids. The presence of clay and silt retards the setting of the cement and makes the mortar weaker and the walls or the slabs leak and hold dampness.

The sand in the mortar does not add any strength but it is used as an adulterant for economy and with the same it prevents the shrinkage and cracking of mortar in setting. The sand must be of proper gradation (it should have particles from 150 microns to 4.75 mm in proper proportion). When fine particles are in proper proportion, the sand will have less voids. The cement required will be less when there will be less void in sand. Such sand will be more economical.

Manufactured or Artificial Sand V/s Natural or River sand

The Civil engineers, Architects, Builders, and Contractors agree that the river sand, which is available today, is deficient in many respects. It does contain very high silt fine particles (as in case of Filter sand).

Presence of other impurities such as coal, bones, shells, mica and silt etc makes it inferior for the use in cement concrete. The decay of these materials, due to weathering effect, shortens the life of the concrete.

Now-a-days, the Government has put a ban on lifting sand from River bed.

Transportation of sand damages the roads.

Removing sand from river bed impacts the environment, as water table goes deeper & ultimately dries.

General Requirements of Manufactured Sand/Artificial Sand

All the sand particles should have higher crushing strength.

The surface texture of the particles should be smooth.

The edges of the particles should be grounded.

The ratio of fines below 600 microns in sand should not be less than 30%.

There should not be any organic impurities

Silt in sand should not be more than 2%, for crushed sand.

In manufactured sand the permissible limit of fines below 75 microns shall not exceed 15%.

Keywords: Artificial Sand, Manufactured Sand, A Viable Alternative, Natural or River sand, An Alternate to River Sand, Concrete and Construction Industry, Manufacturing Plant, Detailed Project Report, Profile, Business Plan, Industry Trends, Market Research, Survey, Manufacturing Process, Machinery, Raw Materials, Feasibility Study, Investment Opportunities, Cost and Revenue, Plant Economics, Production Schedule, Working Capital Requirement, Plant Layout, Process Flow Sheet, Cost of Project, Projected Bal

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