



**Sandip Foundation's
Sandip Institute of Technology & Research Centre, Nashik
Department Of Civil Engineering
Academic Year 2017-18
Report on Site Visit**

- 1. Event Title:-** Visit to RMC and Crusher Plant, ,Nashik (Industrial Site Visit)
- 2. Event Date:-** 13th September ,2017
- 3. Event Conduction Duration:-** One day
- 4. Event Venue:-** Suprabhas Construction , Vilholi , Nashik
- 5. Event Resource Person Details :-** Mr. Ravindra Mohane (Project Incharge)
- 6. Name of Event Coordinator :-** Prof. A.S Jadhav and Prof. V.B Patil
- 7. Event Objective :-** To study the working of R.M.C Plant and Aggregate Crushing Plant

8. Event Summary :-

The students of BE Civil from SITRC visited an RMC plant at Suprabhas ConstructioA.S Jadhav and Prof. V.B Patil . The main objective behind the visit was to show the students how the RMC plant and Aggregate Crushing Plant works The students learnt the following aspects:

- 1.Working procedure of RMC plant and Aggregate Crushing Plant
2. Advantages and Disadvantages of RMC plant

Ready-mix concrete (RMC) is a ready-to-use material, with predetermined mixture of cement, sand, aggregates and water. RMC is a type of concrete manufactured in a factory according to a set recipe or as per specifications of the customer, at a centrally located batching plant. It is delivered to a worksite, often in truck mixers capable of mixing the ingredients of the concrete en route or just before delivery of the batch. This results in a precise mixture, allowing specialty concrete mixtures to be developed and implemented on construction sites. The second option available is to mix the concrete at the batching plant and deliver the mixed concrete to the site in an agitator truck, which keeps the mixed concrete in correct form. In the case of the centrally mixed type, the drum carrying the concrete revolves slowly so as to prevent the mixed concrete from "segregation" and prevent its stiffening due to initial set.

RMC is preferred to on-site concrete mixing because of the precision of the mixture and reduced worksite confusion. It facilitates speedy construction through programmed delivery at site and mechanized operation with consequent economy. It also decreases labour, site supervising cost and project time, resulting in savings. Proper control and economy in use of raw material results in saving of natural resources. It assures consistent quality through accurate computerized control of aggregates and water as per mix designs. It minimizes cement wastage due to bulk handling and there is no dust problem and therefore, pollution-free.

By using R.M.C we can save the time and money required for the labours. In following places ready mix concrete can be used:-

1. Major concreting projects like dams, roads, bridges, tunnels, canals etc.
2. For concreting in congested areas where storage of materials is not possible.
3. Sites where intensity of traffic makes problems.
4. When supervisor and labour staff is less.
5. To reduce the time required for construction etc.
6. Huge industrial and residential projects.

Materials required for RMC

ADMIXTURES : A substance added to the basic concrete mixture to alter one or more properties of the concrete ie. Fibrous materials for reinforcing water repellent treatments and colouring compounds.

AGGREGATE : Inert particles (i.e. gravel, sand, and stone) added to cement and water to form concrete.

CEMENT : Dry powder that reacts chemically with water to bind the particles of aggregate, forming concrete. Portland cement is typically used in concrete production.

FLY ASH : Fly ash is a by-product from coal-fired electricity generating power plants.

Aggregate Crushing Plant

Crushing plants make use of a large range of equipment, such as a pre-screener, loading conveyor, intake hopper, magnetic separator, crushing unit, such as jaw crushers and cone crusher etc.

- Vibration feeder
- Jaw Crusher
- Impact Crusher
- vibrating screen
- Belt Conveyor
- Central electric control system

Working Of Aggregate Crushing Plant

1. Raw materials are evenly and gradually conveyed into jaw stone crushing equipment for primary crushing via the hopper of vibrating feeder.
2. The crushed stone materials are conveyed to crushing plant by belt conveyor for secondary crushing before they are sent to vibrating screen to be separated.
3. After separating, qualified materials will be taken away as final products, while unqualified materials will be carried back to the stone crushing equipment for recrushing. And customers can classify final products according to different size ranges. All the final products are up to the related standards within and beyond China. Of course, according to different requirements, customers can adjust the size of their final products from this stone crushing plant. Process of Stone Crushing Plant
4. Clients will get the satisfactory products after objects being crushed for several times. Dust is generated during the working process while the dust control units are needed.

MERITS OF RMC

1. Better quality concrete is produced.
2. Elimination of storage space for basic materials at site.
3. Elimination of Procurement / Hiring of plant and machinery
4. Wastage of basic materials is avoided.
5. Labour associated with production of concrete is eliminated
6. Time required is greatly reduced
7. Noise and dust pollution at site is reduced.
8. Organization at site is more streamlined.
9. Durable & Affordable
10. No storage space required either for raw materials or for the mix
11. Lower labour and supervisory cost
12. No wastage at site
13. Environment friendly
14. Availability of concrete of any grade

DEMERITS OF RMC

1. Need huge initial investment.
2. Not affordable for small projects (small quantity of concrete)
3. Needs effective transportation system from R.M.C to site.
4. Traffic jam or failure of vehicle creates problem if proper dose of retarder is not given.
5. Labours should be ready on site to cast the concrete in position to vibrate it and compact it.

Towards the end of plant visit, there was a technical interaction to impart the knowledge on concerned topic with Mr. Roshan Sir (manager of production) .

The visit was very fruitful as it improved the students knowledge about the production of concrete and the uses of RMC plant.

9. Event Outcomes

After visiting the site , students are able to understand the details & working of different units of RMC and Aggregate Crushing Plant

10. Event photos :-



