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A REVIEW OF ANALYSIS OF STRENGTH PROPERTIES OF CALCINED KAOLIN AND SILICA FUME

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ABSTRACT

The Portland cement is very useful to construct the any structure in any shape and size. This is very important for concrete because of this is high cost material. The cement production has environmental problem during large scale production process. In this paper we are studying about Silica fume, durability and Compressive strength etc. The mix is very important for any construction using of some Calcined Kaolin, Sand and Aggregate.

1. INTRODUCTION

The cement is used in any construction and characterized as being hydraulic or non hydraulic, which is directly depend on the ability of cement using presence of water.

Figure 1: Cement

2. ADVANTAGES OF USING SILICA FUME

- Compressive strength is high.
- Tensile, flexural strength and modulus of elasticity are high.
- Permeability to chloride is very low.
- Water intrusion is very low.
- Durability is enhanced
- Toughness is increased

3. PORTLAND CEMENT

This type of cement is also known as binding material, which is useful for any type structure and other needs. Different type of cement is prepared for different needs, this type of cement is very useful for any type of foundation.

4. CALCINED KAOLIN

Amorphous defect is formed at 980°C after this started the transformation with recrystallising when the temperature is above 1100°C. During this process, a product is produced with this temperature range and provided the excellent properties in rubber component and improves the mechanical properties with chemical resistance

Figure 2: Calcined Kaolin

5. SAND

Composition of sand are varying which is depend on local rock sources and its condition.

Figure 3: Sand

6. COMPOSITION

Individual particle with range size is known as sand grain. The sand grain are varying between 2 mm to 64 mm. silt is varying between 0.0625 mm down to 0.004 mm.

7. AGGREGATE

The aggregate is work as reinforcement for increasing the strength in overall composite material. The aggregate is mostly used in foundation, french drain, wall drain and road side ending drain due to high hydraulic conductivity value. The aggregate is also used in any foundation and rail roads.

Figure 4: Aggregate

8. SILICA FUME

Figure 5: Silica fume

9. CONCLUSIONS

The workability of concrete are decreasing due to addition of Silica Fume and after this for increasing the workability of concrete to use of super plasticizers are very necessary. The water demand is decreasing in Silica Fume mixture.

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CONFLICT OF INTEREST

None.

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