

Case Study on "Use of Laterite Stone Quarry Dust as a Partial Replacement of Sand in Concrete"

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ABSTRACT: In the present era the infrastructure is developed rapidly and requirement of construction material is also increases so how to overcome the requirement and cost of construction is elaborate below. In this paper presentation based on the study on "Use of laterite stone quarry dust as a partial replacement of sand in concrete." We are known about concrete the admixture of Cement, sand, aggregate, water etc. In above sand is play main role because it is costly and not found easily in so to understand the requirement of sand is to use of laterite stone quarry dust as a partial replacement of sand (Fine aggregate) in concrete. So to understand the percentage, Quantity, change in the physical property of concrete. In such situation to identify the above contains we are study on the concrete block which prepare by using the laterite as the mix proportion is (1:5:10, 1:4:8, 1:3:6.) Replacement is adopted by 25%, 50%, 75%, 100%. Also Maintain the water cement ratio W/C.

KEYWORDS: Analysis, Physical Property of laterite, W/C ratio, Compressive strength, Crushing strength, Density

I. INTRODUCTION

The overall construction cost of construction is affected by construction material which of them sand (fine aggregate plays the main role in construction up to half percentage vale of mix design is occupied by sand and other are cement , course aggregate. it is observed the cost is increased and quality of fine aggregate is decreased. the found near the sit is not possible. so overcome this all problem is to use of laterite stone quarry dust as a partial replacement of sand in concrete. by this process we find percentage, quantity, change in the physical property of concrete. the laterite stone quarry dust is found in open mils and other place in which it has used as form bricks .it contained aluminous laterite (bauxite), (ii) iron ore (iii) manganiferouse laterite (manganese ore), (iv) nickeliferous laterite (nickel ore) and (v) chromiferous laterite (chrome ore). laterite containe some binding property is react as a binding agent with such as fe2o3-al2o3 ratio more than one, and sio2-fe2o3 ratio less than 1.33 is termed as ferruginous laterite, while that having fe2o3-al2o3 ratio less than one and sio2-al2o3 ratio less than. and there properties like cheap in cost, it has more content of cement and it required same time for carrying strength

II. LITERATURE REVIEW

1. Sir Olugbengaaetal(2007) :- He is Investigating ,comparing of compressive strength of sandcrete block vs laterite block by partial replacement of laterite with fine aggregate .
Research :- :- He is Investigating ,comparing of compressive strength
Type of Material: - laterite , fine aggregate ,other construction Material.
Conclusion: - Use of 50% % laterite ,with fine aggregate which compressive strength decreases with increasing in laterit .