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An Experimental Study on Filler And Binder Material To Make Polyblock

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Abstract: ***The Polyblock system known generally as either ICFs (Insulated Concrete Forms) or LCFs (Light Weight Concrete Forms) ICF/LCF systems have been used for over 30 years. In countries where thermal, insulation and energy efficiency are key requirements. This study reviewed the variations in 88% filler and 12% binder material mixture components that effectedthe properties. The effect of resin content filler (Slag/ Industrial Waste) and binders (Unsaturated Polyester) purpose, conventional filler such as concrete sand can also bond. All of these materials are to be tested according to the standard test procedure. The effect of about mentioned filler is studied in this paper.***

Keywords: Concrete Poly blocks, Crushing sand/slag, unsaturated polyester resin

I. INTRODUCTION

This study provides information on the use of building material. for low-cost housing in developing countries especially material thatcan be seen as sustainable.

The applicability of building materials is always determined by the following local circumstance. The power of individual households and residence groups and the willingness of entrepreneur to participate in house construction. Total specimens we are going to prepare for Polyblock by using different types of fillers having different amount in themix field test. The product strength and durability plate grating and drained trench before simple field, test applied to observe the products service is to be confined. The ability of all products, in field test within predetermined limits; static loading, should be checked for failure. free fall and water flow test. Also a new database can be kindly the different properties of cement.[4]

The systems are compliant with the new ‘green’, ‘ecofriendly building’ significantly better than bricks and blocks construction including cavity. These gives better living conditions, building comfort and allows reduction in energy cost. Cement production releases environmentally harmful gases into atmosphere; which is all around 8% in the total contribution of CO2 emission in the world. Another problem in the production of cement is the utilization of more raw materials.[2] Joseph Davidovits Introduced Geopolymer binder in the year 1972 to give significance. Alternative material to ordinaryPortland binder to conquer the problems of CO2 emission as well as to decrease. It Recent researchers indicate the evidence that Geopolymer Concrete mark their importance in the construction industry all over the world. This project presented the properties of 88% filler slag, industrial waste, crushing sand, and 12% binder unsaturated polyester resin, is used for Poly block mixture. Both materials have higher Quality which brings down the water porousness. Its product better protection from chemicals and prominently stops, defrost soundness comparison with ordinary cement.[5] The preliminary parameters like compression, tension and flexure strength of Polyblock. Is To be determined.

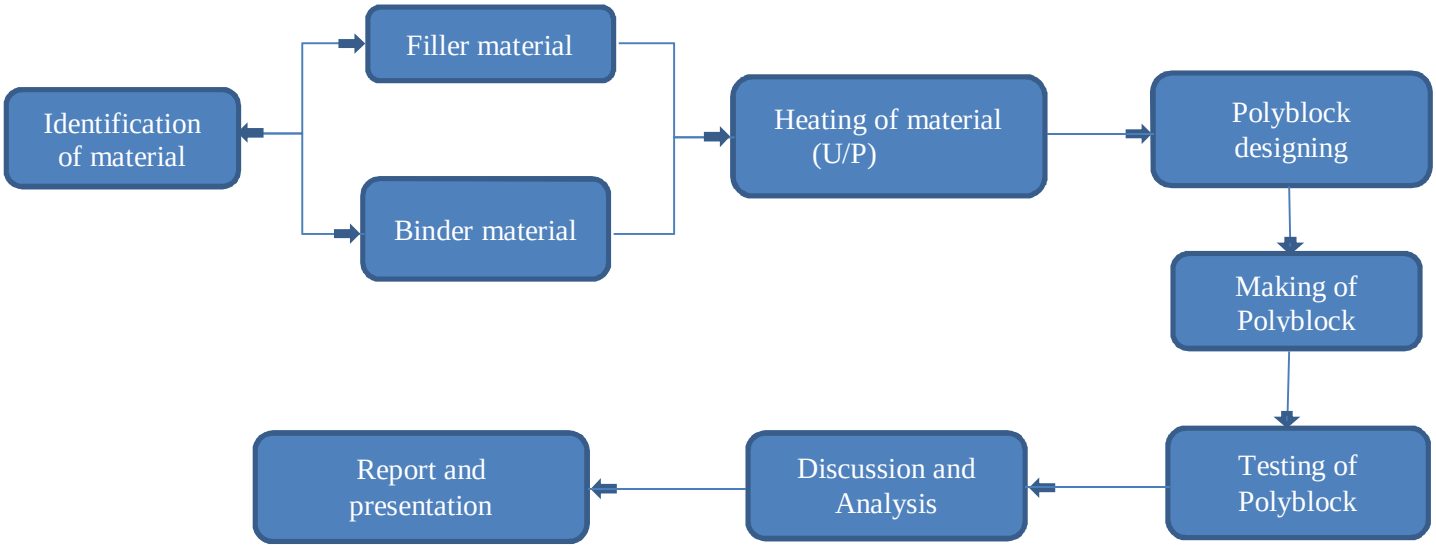
II. REVIEW OF LITERATURE

The purpose of this paper is to present a study of existing information about Polyblock based. On a comprehensive literature review of related topics. the following study discusses the composition,material properties, design, construction,performance factors and advantages and disadvantages of Polyblock.[1]

III. COMPOSITION

Polymer concrete is a synthetic material that is often used for Polyblock. Like filler and binder production material. Filler material natural, crushing sand/slag should be used due to the crushing sand particle shape of this material. Binder using in polymer overlays typically include a base resin and a curing agent or initiator low viscosity binders are used. In well- graded mixture, and binder with higher viscosities are used in gap graded mixture the polyester resin used in PPC is composed of a liquid monomer the reacts with a catalyst to become a solid.[6]

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IV. MIXTURE FORMULATION

Laboratory studies of PPC have been used for formulations with a wide range of mixture composition and proportions. The mixture is primarily used for increasing sand as well as a resin binder that comprises approximately12% of the mixture by dry weight of crushing sand. The binder is an unsaturated isophthalic polyester styrene resin. It is the type of organic plaster containing a small percentage of silane and is catalyzed. Styrene resin containing a small percentage of silane and is catalyzed.[8]

V. METHODOLOGY

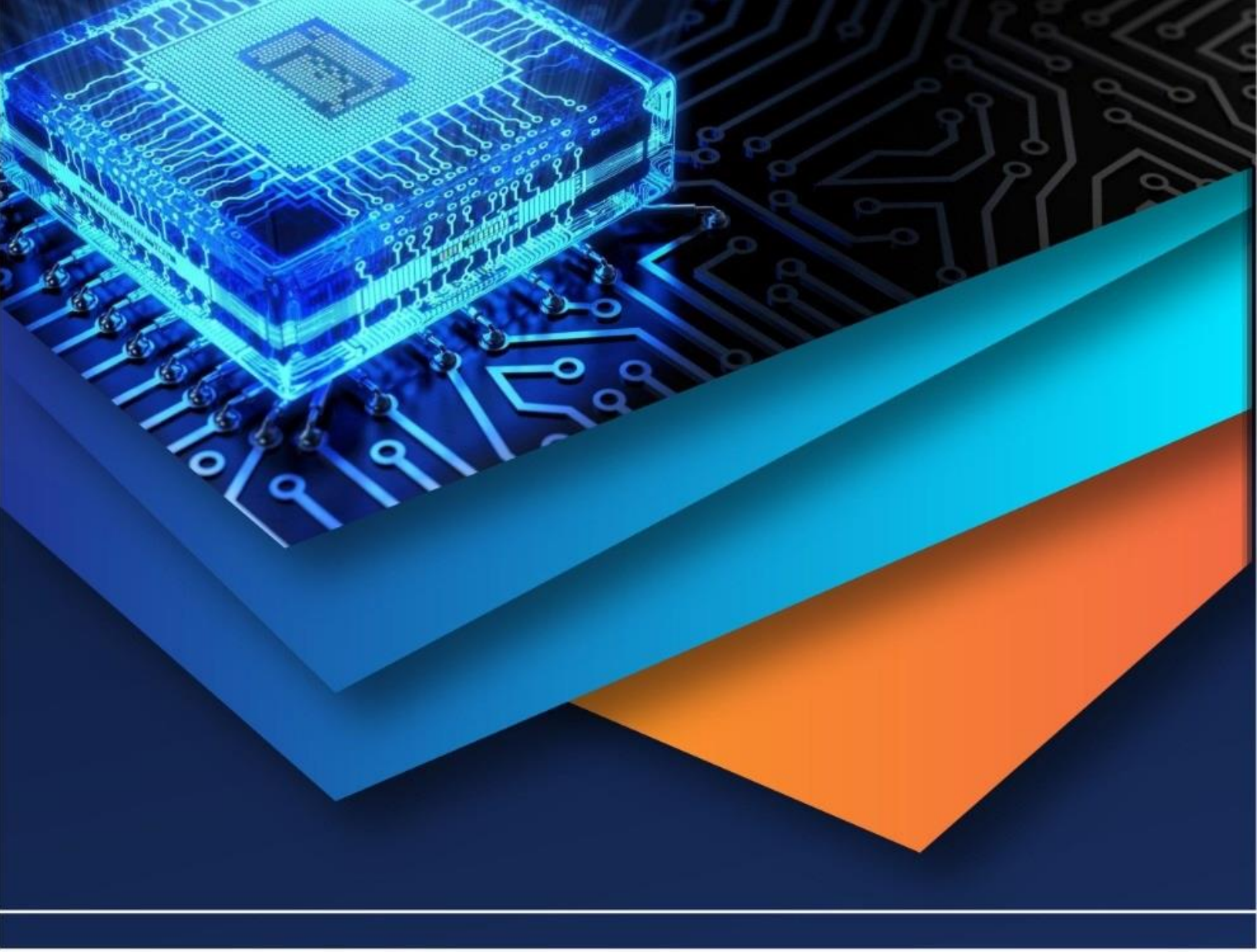
This study involved the performance of Polyblock with the use filler and binder materials. In the filler use of recycled Industrial waste and slag (88%). This was done while keeping constant the amount of resin (12%) and the particle-size distribution of microfilmers. Once the mixture was uniformly developed and the specimens were manufactured. After that we are going to perform compressive strength, tensile strength, water absorption and soundness test. The polyblock specimens size are 8in x 8in x 32in is used. Six Polyblock specimens were cast for to conduct this test. Mold was filled with materials, and they were compacted and vibrated to obtain homogeneous specimens. the equipment used for this process After the manufacture of the blocks, they were cured in an oven under 70 degree for 24 hours. Until they offered a constant weight. Results given in this paper represent the mean of the individual value for each specimen.

VI. CONCLUSION

The incorporation of polythene formaldehyde into the masonry poly blocks. makes the material very light compared to HDPE modified concrete based poly blocks can respond to many needs of current. and future construction works where lightweight materials are recommended. The inclusion of recycled polymer materials however, decreases the compressive strength of the modified concrete and poly blocks. Moreover, due to have some exclusive properties such as sound heat insulation, and energy efficiency. of the waste polymer materials, concrete/poly blocks modified with waste polymer possesses remarkable potential to be utilized as construction materials inBangladesh. Inclusion of the PUF reduces water absorption and porosity.

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