**EXPERIMENTAL STUDY ON THE EFFECT OF RICE HUSK ASH ON THE THERMAL CONDUCTIVITY OF CELLULAR LIGHT CONCRETE BLOCK**

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**Abstract**

Thermal conductivity is defined as the property of the substance through which the heat in the material can easily flow. In modern construction practices, the thermal conductivity of the material is taken into consideration. Nowadays construction materials used for construction have good compressive strength and low thermal conductivity. Using these kind of construction materials, helps in reducing the expenditure thereby making the room temperature constant. The foam concrete blocks are most suitable in serving the purpose. This study focuses on the Cellular Light Concrete block (CLC). These are an alternative to red clay brick and are more eco-friendly in comparison to them. Experiments were carried out in the concrete laboratory of HBTU Kanpur. 42 blocks were casted in seven groups with rice husk ash (RHA) and cement ratio different in each group. The blocks were casted by preparing the cement, sand and fly ash solution and then injecting the freshly prepared foam into this solution which resulted in the formation of small voids in the block, in which the air was being entrapped. Due to these air voids, the overall density of the block was decreased. The cement in the mix was replaced by rice husk ash (RHA) in the percentage by weight of 0%, 5%, 10%, 15%, 20%, 25%, and 30% in respectively in each group of blocks. Thermal conductivity of the blocks was tested by TPS-500 Thermal Constant Thermal Analyzer and compressive strength was carried out by the use of Compression Testing Machine. The result revealed that thermal conductivity decreased till the 20% of the replacement level of RHA and increased as the replacement level increases. Hence it is concluded that, thermal conductivity is inversely proportional to the percentage of rice husk ash but on increasing the percentage of replacement of RHA, the thermal conductivity becomes directly proportional to the percentage of rice husk ash.

**Keywords:** Cellular light concrete blocks, Thermal Conductivity, Rice Husk Ash, Foam Concrete

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