

## Strength Properties of Concrete Paving Blocks with Fly Ash and Glass Powder

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**Abstract :** Problems associated with construction site have been known for many years. Construction industry has to support a world of continuing population growth and economic development. The rising costs of construction materials and the need to adhere to sustainability, alternative construction techniques and materials are being sought. To increase the applications of concrete paving blocks, greater understanding of products produced with locally available materials and indigenously produced mineral admixtures is essential. In the present investigation, concrete paving blocks may be produced with locally available aggregates, cement, fly ash and waste glass powder as the mineral admixture. The ultimate aim of this work is to ascertain the performance of concrete paving blocks containing fly ash and glass powder and compare it with the performance of conventional concrete paving blocks. Mix design is carried out to form M40 grade of concrete by using IS: 10262: 2009 and specification given by IRC: SP: 63: 2004. The paving blocks are tested in accordance to IS: 15658: 2006. It showed that the partial replacement of cement by fly ash and waste glass powder satisfies the minimum requirement as specified by the Indian standard IS: 15658: 2006 for concrete paving blocks to be used in non traffic, light traffic and medium-heavy traffic areas. The study indicated that fly ash and waste glass powder can effectively be used as cement replacement without substantial change in strength.

**Keywords :** paving block, fly ash, glass powder, strength, abrasion resistance, durability

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