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# Eco-friendly Mosaic Tile: Comparative Study By Composition

Samriddi Sharma Marraseni[1], Gyaneshwor Bhandari[1], Bipin Poudel[1], Sharmila Dhakal[1]
[1]BE Student, Oxford College of Engineering and Management, Nawalparasi, Nepal
*Corresponding email: samriddhi1maraseni@gmail.com
*ORCID: 0009-0008-8852-3100

## Abstract

Eco-friendly mosaic tiles refer to tiles that are manufactured using environmentally non-degradable civil construction wastages. With the main theme of "Recycle, Reuse, Reduce", this study reused the construction wastages into engineering materials at low cost.

Keeping sustainability in mind, reducing environmental impact, and offering durability for long-term, this study used plastic and components of mosaic tile. The main aim of this study is to reuse non-degradable content and decrease concrete content for architectural enhancement, engineering significance, ease of manufacturing process and better output for locally demanding product.

The study based on open journal paper associated with the topic. The research explored potential of waste plastic and silica sand for developing thermoplastic composite as floor tiles. Samples were characterised by water absorption, compressive strength, tensile strength, flexural strength sliding wear. The max compressive and flexural strength were found to be 46.20 N/mm$^2$ and 6.24 N/mm 2 respectively with minimum water absorption and sliding wear rate of 0.039% and 0.143 * 10-8 kg/m respectively.

Study provides a green building material through recycling waste plastic for sustainable development. "Development of sand, plastic composite as floor tiles using silica sand and recycled thermoplastic: a sustainable approach for cleaner production."

**Keywords:** *non-degradable, construction wastages, sustainability, durability, compressive strength, tensile strength*