



A Review Paper on Use of Plastic Waste & Foundry Waste for Manufacturing of Eco-friendly Composite Flooring Tile

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ABSTRACT

There has been a considerable imbalance between the availability of conventional building materials and their demand in the recent past. On the other hand, the disposal of plastic is the biggest challenge as repeated recycling poses a potential danger to the environment. And also a small proportion of plastic products are being recycled. Plastic is a very useful substance in our daily life work, but after the use of plastic, it is very difficult for us to dispose of it because it is a non-biodegradable substance. Plastic is a new engineering material in which researchers take more interest to invest their time and money because it has a wide scope to enhance the usage of plastic in different work. The properties of plastic are very unique and it can mix with every kind of material. Plastic is used in various objects which we use in our daily life like polythene, plastic cups, furniture, bags, packaging of food and other accessories, drinking containers, bottles, frames, basins, etc. The usage of plastic can't be banned fully, but we can reuse it in many ways. In this work, an attempt has been made to utilize this plastic waste to make tiles along with foundry waste. As civil engineers, we have to innovate something new related to this. So, here we try to do something like composite tiles.

Keywords: Plastic Waste, Foundry Waste, Composite tiles

1. INTRODUCTION

Plastics are common to man's friends and people are widely dependent on plastics specifically those of use and throw culture like cups, and carry bags. Some of the factors like ease of availability of plastics, economically beneficial, corrosion-resistant, lightweight, and more importantly a versatile element for packaging have given it immense popularity and a remarkable place in domestic and industrial sectors. But these plastics pose a serious threat to the environment and human health when not taken care of most of them are non-biodegradable. Researchers suggest that if plastic isn't disposed of soon, it can sustain for 4500 years without degradation. Now, these days the rate of plastic use keeps increasing. So the collection of plastic waste is increasing at a rapid speed. Hence the project is helpful in reduction in plastic waste in a useful way. We need to use better-advanced techniques and methods to dispose of plastic waste properly, otherwise, the time is not too far away from where we see it as a big challenge for us to dispose of it.

2. EXPERIMENTAL PROCEDURE:

2.1 Tests on Plastic

Table 2.1: Test results on plastic

Sr. No	Description	value
1	Softening point	130 ⁰
2	Density	0.910-0.940 gm/cc

Table 2.2: Test results on foundry

Sr. No	Description	value
1	Specific gravity	2.91
2	Grading zone	Zone III
3	Fineness Modulus	2.06

2.3 Mix ratio

Plastic Waste- 70% by weight

Foundry Waste- 30% by weight

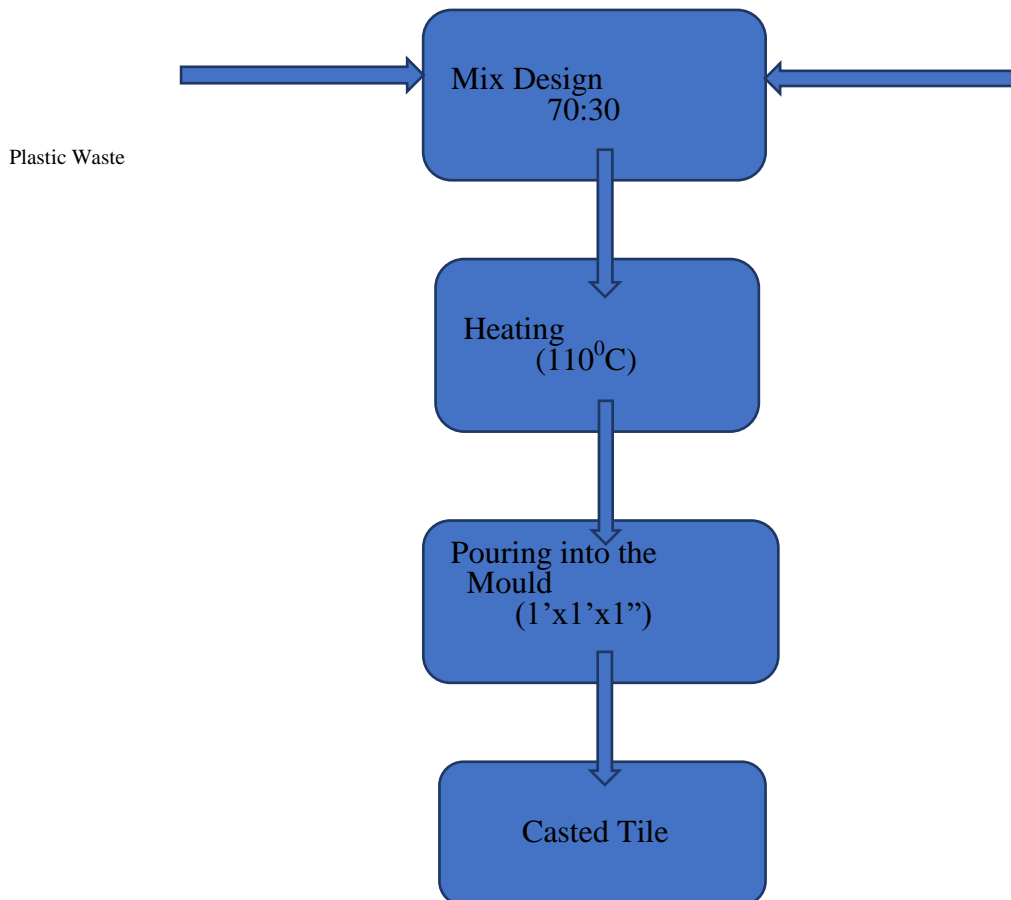


Fig 2.1: Casting process

3. CONCLUSION:

Based on the above experiment result it is concluded that Eco-friendly composite flooring tile can be cast. The manufactured composite flooring tiles can be used for non-traffic areas, footpaths, gardening, jogging tracks, etc.

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