



PAVEMENT BLOCKS FROM SURGICAL FACE MASK

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Abstract: Since last two years we are fighting with covid 19 pandemic. use of face mask became key equipment to protect people against the covid 19 pandemic. To overcome this problem we are going to use this surgical face mask for making a pavement blocks.

INTRODUCTION

The history of concrete paving blocks dates back to 19th century when paving stones were used in European countries for construction of roads serving as footpaths and tracks for steel - wheeled vehicles. Interlocking Concrete Block Pavement (ICBP) is an environment-friendly and labour intensive paving technology which is widely applied in many countries to solve special-purpose paving problems. Paver block paving is versatile, aesthetically good, functional, and cost effective and requires little or no maintenance if correctly manufactured and laid. Natural resources are depleting world wide at the same time biomedical waste generated during the covid 19 pandemic is increasing substantially. The innovative materials and recycling of waste materials in order to compensate the lack of natural resources and to find alternative ways conserving the environment. Biomedical waste used in this work was brought from the surrounding areas. According to WHO has 89 million masks are needed per month. But in March 2021, an estimated 129 billion face masks were used per month and after using this masks people threw this mask in surrounding. As the result it affects human beings, animals, birds life and also aquatic life. Hence it necessary to dispose this discarded face mask properly as per the regulation. By using this waste in concrete paver blocks provides potential environmental as well as economic benefits.

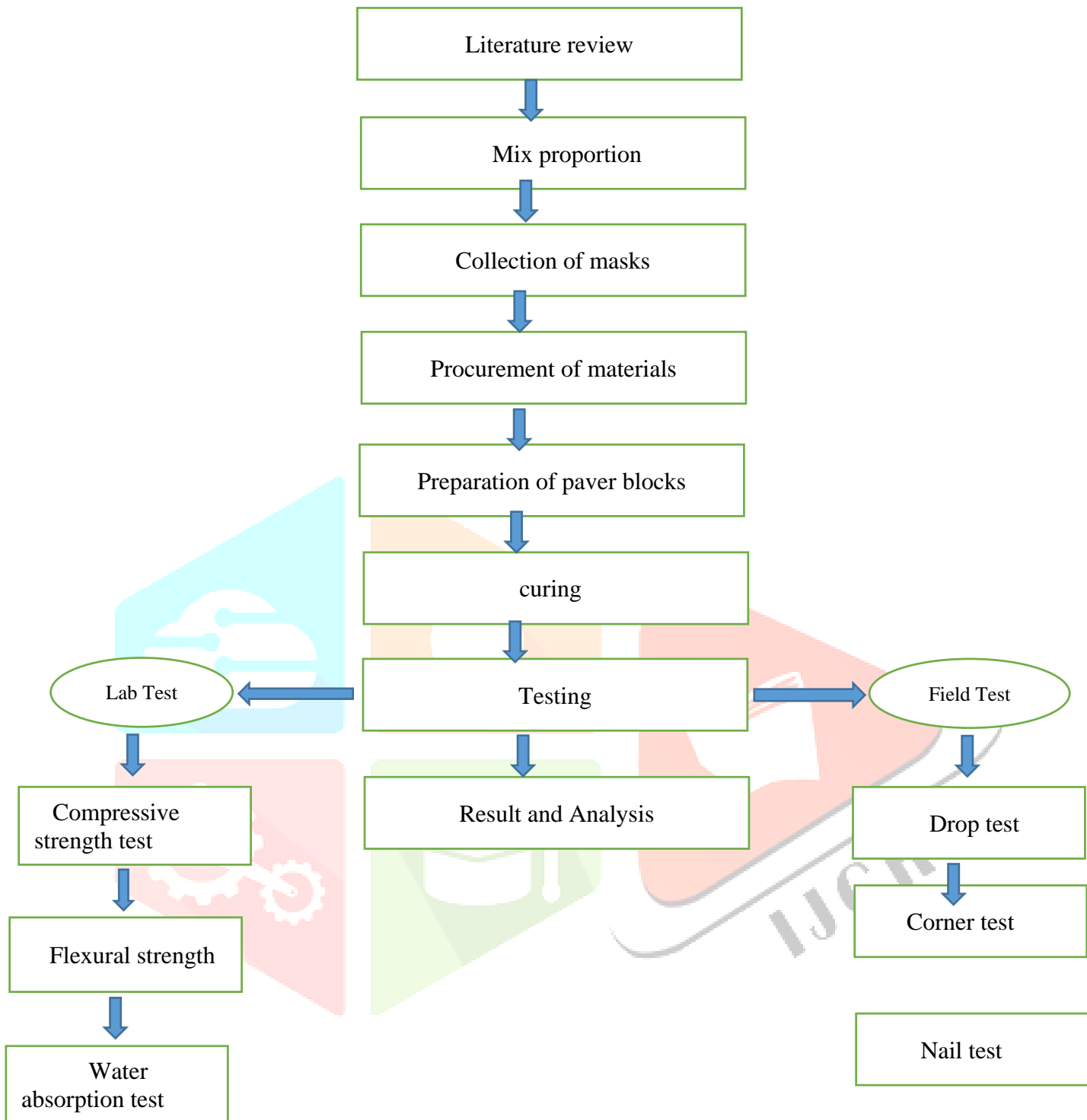
PROBLEM STATEMENT

Globally every month we end up rising 129 billion disposal face mask. The most commonly used single use masks are made up of plastic and thin strip of metal. And people really don't know what has to be done with them. Sometimes mask are thrown into the garbage, sometimes they are thrown water bodies and sometimes they go into incinerators. And they pose threat to ; 1. Sanitation workers 2. General public 3. Environment 4. Marine , Animals, Birds life. That's why, this masks need to be reused.

AIM

The aim of this project is to make the paver blocks from discarded surgical face masks. Since last two years we are fighting with covid 19 pandemic. use of face mask became key equipment to protect people against the covid 19 pandemic. To overcome this problem we are going to use this surgical face mask for making a pavement blocks.

METHODOLOGY



The various steps used in preparation of pavement blocks are as follows:

- The surgical masks were collected from various collection points and were sealed for 72 hours. The masks are taken out and were left for about 3 hours in a disinfectant solution.
- The masks are shredded into small pieces and it is already mixed with premix.
- The pavement blocks are made from cement, sand and discarded surgical face mask. Proportion of cement and sand is 1:2 and 16 % of face mask.
- The mix obtained is added into standard solid block moulds and vibro-compacted.
- The above obtained solid concrete blocks are sun dried and cured.
- After curing the samples for 7 days, 14 days and 28 days, tests are to be performed on them to determine the maximum compressive strength, water absorption capacity and shape of the solid blocks according to IS 2185(Part 1):2005.
- The results are then compared with the results of standard solid concrete blocks.

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CONCLUSION

- The cost of paver block is reduced when compared with standard paver block ;it costs only 9-10 rs.
- It can be used for light traffic.

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