



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A REVIEW PAPER ON ECONOMIC TILES USING PLASTIC WASTE

MAKING OF ECONOMIC TILES USING PLASTIC WASTE

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Abstract: Plastic accoutrements are having High molecular mass with the composition of organic polymers these are non-biodegradable accoutrements, so it should take a long time to putrefy. Hence, these accoutrements caused soil and land pollution and increase day by day. Plastic material having a malleable property, so it can be moldered into asked shapes. Due to the low cost, no sharp, and imperviousness to water, plastic can be used for multiple purpose at different scale. In current situation we can't exclude the use of plastic in our present life style. By using plastic in construction sector, we can reduce the waste plastic intensity. We can use plastic waste for timber of plastic penstocks to conserve nature and plastic waste.

KEYWORDS- Plastic waste, Plastic waste management, waste management, current scenario, Recycle of plastic, Use of plastic in construction .

I. INTRODUCTION

The plastic collection drive was conducted in Pune between 9am and 11am, and a total of 5,880 kg of plastic bags, 1,758 kg of thermocol and 225.3 kg of e-waste was collected from around 200 places in the city. In 2022, Pune generates 160 -170 tons of plastic waste per day.30 trucks collect waste door-to-door, collecting an average of 6 tons per day. 563 containers and 116 compactor buckets dispersed around Pune. In last 5 years, Pune generates approximately 3 lakhs tons of plastic waste. This rate of generation of plastic is very high , so plastic can be used in manufacturing tiles. Plastic products have become an integral part of our daily life encouraging its production. 70% of this production is converted to waste. To address this problem and make Pune a plastic waste free city or zero plastic waste i.e., no plastic to land. PMC has undertaken by the Preparation of a Plastic Waste Management Plan for the city in keeping with Plastic Waste Management Rules 2016 based on the principle of 'Extended. Producers should be encouraged to support the upgrading of the informal scrap and recycling trade as a part of their extended. Conducted Consultative workshops with Stakeholders200 material recovery centers, to Reduce, Reuse, Recycle and Recover 170 to 180 MT of plastic waste it generates per day PET bottle crushing machines at 20 locations with high pedestrian footfalls Toll free number 1800233 3232 where citizens can call and inform regarding the recyclable waste.

II. Source of plastic waste-

Food Wrappers & Containers (31.14 of pollution in terrain, by unit count), Bottle & Container Caps (15.5), Plastic Bags (11.18), Straws and Stirrers (8.13), Beverage Bottles (7.27), Takeout Containers(6.27) The main sources of plastic debris set up in the ocean are land- grounded, coming from civic and storm water runoff, seamster overflows, littering, shy waste disposal and operation, artificial conditioning, tire bruise, construction and illegal jilting. Utmost ultramodern plastics are deduced from reactionary energy- grounded chemicals like natural gas or petroleum; still, recent artificial styles use variants made from renewable accoutrements, similar as sludge or cotton derivations. Utmost ultramodern plastics are deduced from reactionary energy- grounded chemicals like natural gas or petroleum; still, recent artificial styles use variants made from renewable accoutrements, similar as sludge or cotton derivations. While China remains the world's largest patron of plastic, the experimenters find that in 2016 the U.S. was the world's number one source of plastic waste, losing some 42 million metric tons into the global terrain, reports Laura Parker for National Geographic. Utmost of the plastic in our abysses comes from land-grounded sources by weight, 70 to 80 is plastic that's transported from land to the ocean via gutters or plages. The other 20 to 30 comes from marine sources similar as fishing nets, lines, ropes, and abandoned vessels US and UK citizens produce the most plastic waste. Kilograms per time per capita. Plastic waste per person, per time. Encyclopedically to date, there's about8.3 billion tons of plastic in the world – some 6.3 billion tons of that's trash. Imagine 55 million jumbo spurts and that is how important plastic exists then.

III. Physical properties of plastic –

- a. Lightweight with a high strength-to-weight ratio.
- b. Can be manufactured inexpensively and mass produced.
- c. Water resistant.
- d. Shock resistant.
- e. Thermally and electrically insulating.

IV. Chemical properties of plastic –

- a. Plastic have high flammability.
- b. Plastic has low permeability and temperature resistance.
- c. Plastic has superior puncture.
- d. Plastic has more rigid and stronger than LDPE.
- e. Good impact resistance and they do not rust.

V. Classification of plastic –

- 1) Polyethylene Terephthalate (PET or PETE)
- 2) High-Density Polyethylene (HDPE)
- 3) Polyvinyl Chloride (PVC or Vinyl)
- 4) Low-Density Polyethylene (LDPE)
- 5) Polypropylene (PP)
- 6) Polystyrene (PS or Styrofoam)

VI. Plastic waste management in Pune –

The proper operation, separation and treatment of waste is important to reduce its impact on the climate and people. Pune is one of the many metropolises in India working to treat all the waste it generates. To help achieve this megacity has come up with an innovative strategy It has placed a group of marginalized women at the van of a crusade to clean the megacity. The workers insulate the waste that they collect into recyclables

Paper, plastics, polythene, and paper glass or plastic waste, plastic wrapper.

VII. Use of plastic in construction

- a) Pipes: Electrical Conduits, Rain Water & Sewage pipes, Plumbing, Gas Distributions.
- b) Cables: PVC Insulation on cables, Insulation Tapes .
- c) Floorings: Flooring tiles & Rolls.
- d) Domes / sky lights: Opaque as well as transparent.
- e) Roofing: Coloured or Double skinned for insulation.
- f) Windows & doors: Extruded sections for Door and windows and panels.
- g) Storage tanks: Storage tanks.
- h) Hardware accessories: Washers, Nut bolts, Sleeves, Anchoring wires.
- i) Temporary structures: Guard cabins, tents
- j) Insulation materials: PVC sheets, insulating membranes.

VIII. Conclusion

- a) The utilization of waste plastic in production of pavement /roof tiles has productive way of disposal of plastic waste.
- b) The cost of tiles is reduced when compared to that of ceramic /roof tiles.
- c) The utilization of plastic waste rather than cement in the production of tiles can be viewed as taking into account this investigation.

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