IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 4, Issue 3, April 2024

Effect of Replacement of Bitumen by Optimum Quantity of Waste Plastic in Road Pavement

Chirag Sanjay Bodhare, Vivek Vinod Dhavan, Vinayak Bhausahab Dhongade Piyush Rajesh Tejale, Chetan Jaywant Jagtap

Guru Gobind Singh Polytechnic, Nashik, India

Abstract: Plastic is everywhere in today's lifestyle and its disposal is a major problem. India alone generates more than 1, 00,000 metric tons of solid wastes per day that includes 12% to 15% of waste plastic. This is toxic in nature, it is a non-biodegradable product due to which these materials pose environmental pollution and problems like breast cancer, reproductive problems in humans and animals and genital abnormalities. Rapid industrial and enormous population growth has resulted in increasing the various types of waste materials. Considerable measures have been done for the disposal of these waste products. These plastics are considerably non-biodegradable thus can be used as a modifier in bitumen and aggregates to increase their strength.

Keywords: Plastic

REFERENCES

- [1]. Bajpai etal. (2017) "A Study on the Plastic Waste Treatment Methods for Road Construction", International Journal of Advance Research, Ideas and Innovations in Technology. 3 (6), pp. 559-566.
- [2]. Chandramouli, etal (2016) "Plastic Waste: It's Use in Construction of Roads", 3rd International Conference on Recent Innovations in Science Engineering and Management. Pp. 774-779.
- [3]. Chhabra, etal (2014) "Use of plastic waste & waste rubber tyres in pavement", International Journal of Core Engineering and Management. 5.
- [4]. Gawande, etal (2012) "Utilization of waste plastic in asphalting of roads", Scientific review and chemical communications (ISSN 2277-2669), 11.
- [5]. Kalantar, etal (2012) "A review of using waste and virgin polymer in pavement" Constuction and building materials. 8.
- [6]. Manju, etal (2017) "Use of Plastic in Bituminous Pavement", International Journal of Chem Tech Research. 10 (8), pp. 804-811.
- [7]. Menaria, etal (2015) "Use of Waste Plastic in Flexible Pavements-Green Roads", Open Journal of Civil Engineering. 5 pp 299-311.
- [8]. Mir. (2015) "Use Of Plastic In Pavement Construction", IOSR Journal of Engineering. 5 (2), pp. 11.
- [9]. Pandey, etal (2017) "Waste Plastic Bottle as Construction Material", International Advance Research Journal in Science, Engineering and Technology. 4 (3), pp 1-6.
- [10]. Sahu.etal. (2016) "Application of Plastic Materials in Road Construction", 2nd International Seminar On Utilization of Non-Conventional Energy Sources for Sustainable Development of Rural Areas. pp. 1-5.
- [11]. Sasane, etal (2015) "Application Of Waste Plastic As An Effective Construction Material In Flexible Pavement". International Research Journal of Engineering and Technology. 2 (3), pp. 1943-1948.
- [12]. Shaikh, etal (2017) "Use of Plastic Waste in Road Construction", International Journal of Advance Research and Development. 2 (5), pp. 14-19.
- [13]. Trimbakwala, etal (2017) "Use of Waste Plastic in Road Construction", International Journal of Scientific and Research Publication, 7 (4), pp. 137-139.

DOI: 10.48175/IJARSCT-17214

