IJARSCT



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

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

Volume 3, Issue 1, August 2023

Roadway and Infrastructure Development in Konkan Region by using Waste Material

Sumit Sudhir Pugaonkar¹ and Dr R P Singh Kushwah²

Research Scholar, Chhatrapati Shivaji Maharaja University, Panvel, India¹ Professor, Chhatrapati Shivaji Maharaja University, Panvel, India²

Abstract: The disposal of plastic is major threat of a environmental problem. If the highway of the potholes and corrugation is also major problem. Plastic pavement will be a better solution to the above stated problems. A material that contain one or more organic polymer of large molecular weight, solid in its finished state, is also can be the shaped by its flow is called as "plastic". The durability of plastic is high and it degrades very slowly. And also plastic has high resistant to degradation. Plastic can be divided in to two major categories- thermoses & thermoplastics. Thermoses have high durability and strength because it solidifies irreversibly when heated, henceforth can be used primarily in construction application. Plastic is a non-degradable waste, causes green-house effect and global warming. The various experiments have been carried out whether the waste plastic can be reused productivity. The various literature indicated that the waste plastic when added to hot aggregates will form a fine coat of plastic over the aggregate and such aggregate when mixed with binder is found to have higher strength, higher resistance and better performance over a period of time. Also along with the bitumen, use waste plastic increases its life and smoothness. It is economical and eco-friendly. Addition of plastic waste in construction of pavements reduces the plastic shrinkage and drying shrinkage. The use of waste plastic improves the abrasion & slip resistance of asphalt pavement. In India, because of hot and extremely humid climate, plastic pavements of greatest advantage.

Keywords: Transportation, Road Pattern, Road Transport Service

REFERENCES

- [1]. Indian Roads Congress IRC: 37-2012 Guidelines for the design offlexible pavements-August 2012
- [2]. R. Vasudevan.,(2011), "A technique to dispose waste plastics in an ecofriendly way Application in construction of flexible pavements", Construction and Building Materials, Vol. 28, Department of Chemistry, Thiagarajar College of Engineering, Madurai, Tamil Nadu, India, pp 311–320.
- [3]. Miss Apurva J Chavan Use of plastic waste in flexible Pavements -ISSN 2319 4847, Volume 2, Issue 4, April 2013
- [4]. S.S.Verma Roads from plastic waste The Indian Concrete Journal November 2008
- [5]. Vinoth.N Use of plastic wastes in road construction Central Institutes of Plastic Engineering and technology
- [6]. Aravind K., Das Animesh, (2007), "Pavement design with central plant hot-mix recycled asphalt mixes", Construction and Building Materials, Vol. 21, Dept. of Civil Engg., Indian Institute of Technology, Kanpur, India, pp 928–936.
- [7]. Dhodapkar A N., (Dec. 2008), "Use of waste plastic in road construction", Indian Highways, Technical paper, journal, P No.31-32.
- [8]. Al-Hadidy A.I., Yi-qiu Tan (2009), "Effect of polyethylene on life of flexible pavements", Constructionand Building Materials, Vol. 23
- [9]. Rishi Singh Chhabra*, SupriyaMarik A Review Literature On The Use Of Waste Plastics And Waste Rubber Tyres In Pavement – International Journal Of Core Engineering & Management(IJCEM) - Volume 1, Issue 1, April 2014

DOI: 10.48175/568



IJARSCT



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

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

Volume 3, Issue 1, August 2023

- [10]. Zahra NiloofarKalantar, Mohamed RehanKarim, AbdelazizMahrez A review of using waste and virgin polymer in pavement - Construction and Building Materials 33 (2012) 55–62
- [11]. AmitGawande*, G. Zamare, V.C. Renge, SaurabhTayde, G. Bharsakale An overview on waste plastic utilization in asphalting of roads Journal of Engineering Research and Studies volume 3,2012/01-05

