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, November 2023

A Review Paper on Study and Design of Pervious Concrete Mix with Non-Metallic Firbers

Prof. Vikas Bankar¹, Darshan S. Burade², Sukanya B. Patil³, Shubham T. Badghaiya⁴ Sakshi D. Bhokte⁵, Abhishek K. Mungle⁶, Sanskruti .B. Dhenge⁷

Assistant Professor, Department of Civil Engineering¹

Students, Department of Civil Engineering ^{2,3,4,56,7}

banker.vikky@gmail.com, darshanburade12@gmail.com, sukanya2patil@gmail.com, subham9657@gmail.com sakshibhokte12@gamil.com, abhishekmungle789@gmail.com, sanskrutidhenge092@gmail.com Jagadambha College of Engineering & Technology, Yavatmal, Maharashtra, India.

Abstract: Pervious concrete, a sustainable and innovative construction material, has gained significant attention in recent years due to its numerous environmental benefits and versatile applications. This review paper comprehensively explores the properties, applications, environmental benefits, challenges, and future prospects of pervious concrete. Non-metallic fibers can also be used as a partial replacement of cement to increase the strength of the pervious concrete. The cement is partially replaced with Non-metallic fiber in volume of 1%, 1.5% and 2%. A large number of trial mixes are required to select the desired optimum replacement of cement by Non-Metallic fiber. By evaluating various research studies and real-world applications, this paper aims to provide an in-depth understanding of pervious concrete and its role in sustainable urban development.

Keywords: sustainable, Environmental benefits, Versatile application, Concrete, Non-metallic fibers, Future prospect, Urban Development

REFERENCES

- [1]. Experimental Study on Implementation of Pervious Concrete in Pavements- Nishith M N, Gururaj Acharya, Shaik Kabeer Ahmed(2016)
- [2]. Use Of Pervious Concrete In Road Pavement-Suraj F. Valvi, Anil P. Thoke, Abhijit A. Gawande, Manoj B. Godse, Prof.D.D Shelke(2017)
- [3]. Experimental Analysis on High Strength Pervious Concrete-Ch. Hari Sai Priyanka1(2017).
- [4]. M. Made, S. Rogge, Development of high quality pervious concrete specifications for Mary land conditions, (2013),
- **[5].** Darshan S. Shah, Pervious Concrete: New Era for Rural Road Pavement, (2013), Vol 4 6. Zheng, Chen, and Wang, Mix Design Method for Permeable Base of Porous Concrete, (2012), Vol 5.
- [6]. Chandana Priya C. "A study of mechanical properties of Fly Ash concrete with Glass Fiber" International Journal of Civil Engineering and concrete Structure, vol. 1, No. 1, March (2016)
- [7]. A.V. Pradeepa M. Harshavarthana Balaji "Design of eco friendly pervious concrete", International journal of civil engineering and technology, Volume 6, Issue 2, February (2014).
- [8]. Kolli Ramujee, "Strength properties of polypropylene fibre reinforced concrete" International Journal of Innovative Research in Science, Engineering and Technology Vol. 2, Issue 8, August (2013).
- [9]. STRENGTH PROPERTIES OF POLYPROPYLENE FIBER REINFORCED CONCRETE BY Kolli. Ramujee et. al. (2013).
- [10]. Effect of Blast Furnace Slag on Mechanical Properties of Glass Fiber Polymer Composites by A.V. Pradeepa et. al. (2014).
- [11]. Influence of Glass Fiber and Fly Ash on the Mechanical Properties of Concrete by Chandana Priya.C et. al. (2016).

Copyright to IJARSCT www.ijarsct.co.in DOI: 10.48175/IJARSCT-13611

