

A Novel Approach for Comparative Study Based Performance Recycled Aggregate in Conventional Concrete

Sanket V. Kumavat¹ and Prof. S. D. Patil²

ME (Civil) Research Scholar, Department of Civil Engineering¹

Professor, Department of Civil Engineering²

Bhivarabai Sawant College of Engineering and Research, Narhe, Pune, India

Abstract: The use of natural aggregate is growing increasingly prevalent as the construction industry develops to a higher level. Recycled aggregate can be used as a replacement material to lessen the demand for natural aggregate. In contrast, there is a lot of solid trash produced during building deconstruction that is challenging to deal with. These problems can be resolved positively by using approaches for resource recovery, reuse, and recycling. This paper presents an effective way to reclaim and reuse recycled aggregates. Research demonstrates that the qualities of concrete, such as compressive strength, split tensile strength, and flexural strength, are significantly impacted by the use of recycled aggregate as a replacement material. Recycled aggregates present significant reductions in properties like porosity, water absorption, and density which are also taken into consideration and suitable treatments have been discussed here. Using recycled aggregate also lessens dust and CO₂ emissions, two environmental issues. The use of recycled aggregate with appropriate treatment methods proves an ideal aggregate used construction industry.

Keywords: Construction, Aggregate, Recycled, Concrete, Civil.

REFERENCES

- [1]. Aditya G. Kutwad, Manoj B. Nikam, Mahav T. Wagare, Vinay B. Birajdar, Gaurav C. Vispute, A.A. Khalil, – “Study and Use of Recycled Aggregate with Fly Ash in Concrete”
- [2]. Enric “Recycled Aggregates for Concrete: Problems and Possible Solutions” .
- [3]. Janani Sundar, P Devadas “Impact of chemical admixture on Recycled Aggregate Concrete”
- [4]. Mirajana Malesev, Vlastimir Radonjanin and Snezana Marinkovic “Recycled Concrete as Aggregate for Structural Concrete Production”
- [5]. Parameshwar S. Kori and Ramesh Bashetty “Methods of enhancing the performance of recycled aggregate concrete through the use of supplementary cementation materials”
- [6]. Sami W. Tabsh, Akmal S. Abdelfatah “Influence of recycled concrete aggregate on strength properties of concrete”
- [7]. Sandrine Braymand, Pierre FRCAois, FRCAoise Feugeas and Christophe Fond “Rheological Properties of recycled aggregate concrete using Super plasticizers”
- [8]. Sidam Gangaram, Vankadothu Bhikshma, Maganti Janardhana “Development of M30 Grade Recycled Aggregate Concrete by Replacing 100% Virgin Aggregate with Recycled Aggregates and Partial Replacement of Mineral Admixtures”
- [9]. Parekh D.N. & Dr. Modhera C.D. “Assesment of recycled aggregate concrete”
- [10]. D. KL. Ramadevi, Dr. R. Chitra “Concrete using recycled aggregate”
- [11]. Jitender Sharma, Sandeep Sinha “Study of recycled concrete aggregate”
- [12]. Atik Sarraz, Md. Hossain Nadim and A.F.M. Ashik Rahman “Comparative study of Recycled Concrete Aggregate as a Construction Material”
- [13]. M. Etxeberria, A. R. Mari, E. Va'zquez “Recycled aggregate concrete as a structural material”

- [14]. Mahmud M. Abu Zeid, M. A. Atta, Mohammad Y. Abdellah – “Study of Recycled Aggregates In Casting Of Shallow Foundation”
- [15]. Neeraj Jain, Mridul Garg and A. K. Minocha – “Green Concrete From Sustainable Recycled Coarse Aggregates Mechanical And Durability”
- [16]. Ashraf M. Wagih, Hossam Z. El-Karamoty, Magda Ebid, Samir H. Okba – “Recycled Construction And Demolition Concrete Waste As Aggregate For Structural Concrete”
- [17]. Ahmed Shaban Abdel-hay “Properties Of Recycled Concrete Aggregate Under Different Curing Conditions”.