Report on Mini Project

SUSTAINABLE CONCRETE BY E-WASTE

Group No. : 14.

Submitted by

- **UDIT KUMAR NISHAD**
- **ANNU KUMARI**
- **VIVEK KUMAR MEENA**
- **SHIVAM KUMAR SINGH**

B.Tech IVth Semester

Under the Guidance

Dr. SONAL BANCHHOR

DEPARTMENT OF CIVIL ENGINEERING
INSTITUTE OF ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)
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(A CENTRAL UNIVERSITY)

CERTIFICATE

This is to certify that the project work entitled "Sustainable Concrete By E-Waste" Submitted by: Udit Kumar Nishad (22024148), Annu Kumari (22024102), Vivek Kumar Meena(22024150), Shivam Kumar Singh (22024139) has been examined by the undersigned as a part of an examination of the B.Tech (Civil Engineering) 4th semester project at the Department of Civil Engineering, School of Studies of Engineering & Technology, Guru Ghasidas Vishwavidyalaya (A Central University) Bilaspur, (C.G).

Signature _____
Name Dr. Sonal Banchhor
Assistant Professor
Guide

Signature _____
(EXTERNAL EXAMINER-1)

Signature _____
(EXTERNAL EXAMINER-3)

Signature _____
(EXTERNAL EXAMINER-2)

Signature _____
(EXTERNAL EXAMINER-4)

Signature _____ 05/08/24
Dr. M. C. RAO
Head of department
Department of Civil Engineering
SOS (E & T), Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur

ABSTRACT

Sustainable concrete made from e-waste involves incorporating materials from electronic waste, such as computer chips and circuit boards, into concrete mix. This approach helps reduce the environmental impact of both waste disposal and concrete production. By recycling e-waste, valuable metals and materials are reclaimed, and the concrete's durability and strength can be improved. This method contributes to a circular economy and minimizes the need for raw materials in concrete manufacturing.The construction industry faces significant environmental challenges, notably the high carbon footprint of traditional concrete production. To address this, innovative approaches are being explored, including the use of electronic waste (e-waste) as a sustainable component in concrete mixtures. E-waste, which comprises discarded electronics, contains valuable materials such as metals, glass, and plastics. Incorporating these materials into concrete can enhance resource efficiency, reduce waste, and potentially improve concrete properties. This abstract reviews the integration of e-waste into concrete, highlighting the benefits, such as reduced landfill use and improved material characteristics, and the challenges, including contamination risks and processing requirements. The utilization of e-waste in concrete not only contributes to environmental sustainability but also promotes the circular economy by repurposing hazardous waste. Future research and development are crucial to optimizing e-waste use in concrete and establishing guidelines for its safe and effective application.