

Experimental Study on Concrete Using Cow Dung Powder by Partial Replacement of Cement

Dr. N. Sathyakumar¹, S. Ayyanar², K. Dharunsriram³, S. Haridharani⁴, G. Vasanth⁵

Assistant Professor, Department of Civil Engineering¹

UG Students, Department of Civil Engineering^{2,3,4,5}

Sri Shakthi Institute of Engineering and Technology, Coimbatore

Abstract: Cement, which is expensive, resource-intensive, and a major source of CO₂ emissions, is used extensively in the construction sector. Cow Dung Powder (CDP) was added to cement in different weight percentages (10%, 13%, 16%, and 20%) and allowed to cure for 1, 14, and 28 days, respectively, before the compressive strengths were tested. Additionally, by combining cow dung powder with Portland cement in different percentages, the setting time, bulk density, and workability are determined. At 28 days, the compressive test results for 0%, 10%, 13%, 16%, and 20% replacement of cement with CDP are 22.00 N/mm², 20.22 N/mm², 19.55 N/mm², 13.78 N/mm², and 12.13 N/mm², respectively. According to the workability results, 112 mm.

Keywords: Cement

