

# **Study on use of Rice Husk Ash in Concrete**

**M. S. Rabade<sup>1</sup>, S. S. Tavaré<sup>2</sup>, V. V. Patil<sup>3</sup>, A. R. Patil<sup>4</sup>**

Assistant Professor, Department of Civil Engineering<sup>1</sup>

UG Students, Department of Civil Engineering<sup>2,3,4</sup>

D. Y. Patil Technical Campus, Talsande, Kolhapur, India

**Abstract:** *The rice husk is an agricultural waste which is obtained from milling process of paddy and approximately 22% of the weight of paddy is rice husk. The waste is used as fuel in producing steam in parboiling process. The 25 % the weight of husk is converted into ash which is known as rice husk ash (RHA) and is again a waste which is disposed. This ash consists of amorphous silica which can be used as pozzolana in making concrete and cement instead of disposing it without compromising on the properties of cement or concrete if replaced in specific proportion with other constituents of cement or concrete. In this study the ordinary Portland cement is replaced in different proportion with RHA to obtain concrete with comparable and satisfactory strength and properties to that of normal concrete. The proportions of replacement chosen are at 2.5% interval starting from 5 % to 15 % and the casted concrete were tested under compression at different ages and results obtained are compared with normal concrete of same grade and it is concluded that the results are comparable.*

**Keywords:** RiceHusk Ash, Cement, Concrete, Compressive strength, Split tensile strength, RHA

## **REFERENCES**

- [1]. P.Padma Rao et al. (2014), A Study on Use of Rice Husk Ash in Concrete, IJEAR Vol. 4, Issue Spl-2, Jan – June 2014, ISSN: 2348-0033(Online) ISSN : 2249-4944 (Print).
- [2]. OBILADE, I.O. , USE OF RICE HUSK ASH AS PARTIAL REPLACEMENT FOR CEMENT IN CONCRETE, ISSN2305-8269, Sept. 2014. Vol. 5. No. 04
- [3]. Kartini k et al. (2008)-Improvement on mechanical properties of Rice Husk Ash concrete with Superplasticizer University TechnologyMARA, MALAYSIA ,international conference on construction and building technology ICCBT 2008 -A – (20) – pp221-230.
- [4]. Dao V et al. (2008)- Effect of rice husk ash on properties of high strength concrete the 3rd ACF International conference-ACF/VCA 2008.
- [5]. Ramezani pour A et al. (2009)- the effect of rice husk ash on mechanical properties and durability of sustainable concret .
- [6]. Zemke N and woods E (2009)- rice husk ashl California polytechnic state university.
- [7]. Harunur ket al. (2010)- Durability of mortar in presence of rice husk ash world academy of science , engineering and technology 432010
- [8]. Abhilas.s et .al (2011)- study of the properties of concrete by partial replacement of ordinary Portland cement by rice husk ash department of civil engineering, BIT mesra ,ranchi-835215,international jornal of earth sciences and engineering ISSN 0974-5904, volume 04 , No 06 SPL,October 2011,pp 965-968.
- [9]. Kartini.K(2011)-rice husk ash pozzolanic material for sustainability-university technology MARA 40450 Shah alam , selangor
- [10]. Patnaikuni l et al (2012)- performance of rice husk ash concrete exposed to sea water 6th SASTech 2012,malaysia ,kuala lumpur .24-25march,2012.organized by khavaran institute of higher education.
- [11]. Maurice E et al .(2012)- compressive strength of concrete with rice husk ash as partial replacement of ordinary Portland cement. Department of Civil engineering, rivers state university of science and technology port Harcourt, nigeria .scholarly Journal of engineering research vol.1(2),pp.32-36,may 2012 ,ISSN 2276-8955@2012 Scholarly -journals.

- [12]. Marthon c (2012) – effect of rice husk ash (RHA) as partial replacement of cement on concrete properties.civil engineering department, shillong polytechnic, shillong,meghalaya ,india ,793008,international journal of engineering research and technology (IJERT)ISSN : 2278-0181,vol .1 Issue 6, august- 2012