IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, July 2022
Impact Factor 6.252

Experimental Study of Shear Strength and Behavior of RC Deep Beams after Replacement of Shear Reinforcement by 0.2% Steel and 0.1% Polypropylene Fibers

Mr. Yogesh V Patil[1] and Dr. Swati Ambadkar[2]
Research Scholar. M. Tech, Structural Engineering, Department of Civil Engineering[1]
Guide, Department of Civil Engineering[2]
G.H. Raisoni School of Engineering and Technology, Amravati.

Abstract: *Concrete is acknowledged to be a relatively brittle material when subjected to normal stresses and impact loads, where tensile strength is only approximately one tenth of its compressive strength. As a result for these characteristics, concrete member could not support such loads and stresses that usually take place, majority on concrete beams and slabs. Historically, concrete member reinforced with continuous reinforcing bars to withstand tensile stresses and compensate for the lack of ductility and strength. Furthermore, steel reinforcement adopted to overcome high potentially tensile stresses and shear stresses at critical location in concrete member. Fibrous concrete can be mixed by vibration, whirling, press moulding, dehydration, press moulding with dehydration and densification in a magnetic field shear is generally brittle in nature in contrast to the ductile behavior and progressive flexural failure with large number of cracks observed in normal beams. The stresses in isotropic homogeneous deep beams before cracking can be determined using finite element analysis or image elastic model studies. It is found that the smaller the span/depth ratio (i.e. less than 2.5), the more pronounced the deviation of the stress pattern from that of Bernoulli and Navier.*

Keywords: Energy management system**,** Active power filters (APF), Power Quality (PQ), distributed system

REFERENCES

[1]. A.K.Sachan C.V.S.Kameswara Rao 1990 "Behaviour of fibre reinforced concrete deep beams" science direct Journal Volume 12, Issue 3, PP 211-218.
[2]. T.M.Roberts N.L.Ho 1982 "Shear failure of deep fibre reinforced concrete beams" science direct Journal Volume 4, Issue 3, PP 145-152.
[3]. Mohammad AlHamaydeh George Markou Nikos Bakas 2022 "AI-based shear capacity of FRP-reinforced concrete deep beams without stirrups" science direct Journal volume 264, 114441.
[4]. Mohamed S.Manharawy Ahmed A.Mahmoud 2022 "Experimental and numerical investigation of lightweight foamed reinforced concrete deep beams with steel fibers" science direct Journal volume 260, 114202.
[5]. Shengxin Fan Yao Zhang Kang HaiTan 2022 "Fire behaviour of deep beams under unsymmetrical loading" science direct Journal volume 250, 113419.
[6]. Zherui Li Hiroshi Isoda Akihisa Kitamori 2022 "Analytical model for the capacities of traditional Japanese timber frames with deep beams" science direct Journal volume 253, 113764.
[7]. Marcos V.G.Silveira Bruno Paini Luís A.G.Bitencourt Jr 2022 "Design and experimental investigation of deep beams based on the Generative Tie Method" science direct Journal volume 255, 113913.
[8]. IS: 10262-1999. Indian Standard-„Recommended Guidelines for Concrete Mix Design- Code of practice". Bureau of Indian Standards, Manak Bhavan, New Delhi, India.
[9]. IS: 383-1970. Indian Standards- „Specification for Coarse and Fine Aggregates from Natural Sources for

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, July 2022
Impact Factor 6.252

Concrete- Code for Practice". Bureau of Indian Standards, Manak Bhavan, New Delhi, India.

[10]. IS: 456-2000. Indian Standards- „Plain and Reinforced Concrete- Code for Practice".

[11]. Bureau of Indian Standards, Manak Bhavan, New Delhi, India.

[12]. IS: 7320-1974. Indian Standards- „Specification for Concrete Slump Test Apparatus- Code for Practice". Bureau of Indian Standards, Manak Bhavan, New Delhi, India.

[13]. IS: 8112-1989. Indian Standards- "43 Grade Ordinary Portland Cement- Specification- Code for Practice". Bureau of Indian Standards, Manak Bhavan, New Delhi, India.