IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 4, March 2026
Impact Factor: 8.2

Effect of Steel Fiber and Polyvinyl Alcohol on Durability of Cementitious Composites

Mr. Sharadchandra V. Kantute
M.E. Mechanical Engineering, Lecturer
Bharati Vidyapeeth Institute of Technology, Navi Mumbai

Abstract: *Traditional concrete is considered as brittle and rigid, also conventional concrete is not highly durable. The lack of durability of concrete is on account of the presence of calcium hydroxide and the transition zone, which represents the interfacial region between the particles of coarse aggregate and the hardened cement paste. Steel bars are used in concrete members to keep cracks as small as possible. But they are not small enough to heal, so water and deicing salts can penetrate to the steel, causing corrosion that further weakens the structure by affecting the durability. This result is development of engineered cementitious composites. The purpose of this project is to study the Durability properties of Engineered Cementitious Composites. To verify that, in this project Steel fiber and polyvinyl alcohol fiber with various proportions of mineral admixtures such as rice husk ash and silica fume has been used in ECC to study its structural performance and durable properties.*

Keywords: engineered cementitious composites, Durability properties, Steel fiber and polyvinyl alcohol fiber, rice husk ash and silica fume

DOI: 10.48175/568