**Use of Hybrid Fibres in Geopolymer Concrete**

**Dr.U.R.Kawade**

Dr.Vithalrao Vikhe Patil College of Engg.,Ahmednagar, India

*urmilaanagar@gmail.com*

**A.A.Waghamare**

Dr.Vithalrao Vikhe Patil College of Engg.,Ahmednagar, India

**ABSTRACT**

As cement is major cause of global warming, there is an urgent need to choose alternative to cement which provides safety and durability to structures and also keeps the atmosphere pollution free.One promising solution to this problem is given by geopolymer concrete.Its a technology that is generating huge amount of interest in the construction industry. It contains high proportion of alkali in which hundred percent replacement of cement is possible with any other source material which is rich in silica and alumina. But this results in making the concrete brittle and poor in terms of ductility and flexural strength. Again to overcome this loss fibers can be used in geopolymer concrete to enhance its flexural performance. Researchers have attempted to use fibers in geopolymer concretes to impart flexural strength to it. However hybrid fibers in geopolymer concrete have never been used earlier. The present work is a pioneer attempt to use these hybrid fibers in the geopolymer concrete to avoid the brittle failure of the same. The various mechanical properties of the geopolymer concrete are investigated experimentally and parameters are optimized. Optimum molarity of sodium hydroxide, optimum sodium silicate to sodium hydroxide ratio and optimum percentage of addition of fibers in geopolymer concrete for improvement of mechanical properties of geopolymer concrete are determined.

*Keywords: Geopolymer concrete; hybrid fibres;*