

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202341051377 A

(19) INDIA

(22) Date of filing of Application :31/07/2023

(43) Publication Date : 01/09/2023

(54) Title of the invention : FRESH PROPERTIES OF GLASS FIBER IN SELF COMPACTING CONCRETE

(51) International classification :C04B0111000000, C04B0028020000, C04B0016060000, C08J0005040000, B02C0017200000  
(86) International Application No :PCT//  
Filing Date :01/01/1900  
(87) International Publication No : NA  
(61) Patent of Addition to Application Number :NA  
Filing Date :NA  
(62) Divisional to Application Number :NA  
Filing Date :NA

(71)Name of Applicant :

1)St. Martin's Engineering College

Address of Applicant :Sy No. 98, 100, Dhulapally Road Dhulapally, Kompally Secunderabad Telangana India 500100 Secunderabad -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)P. Guruswamy Goud,

Address of Applicant :St. Martin's Engineering College Dhulapally, Kompally Secunderabad Telangana India 500100 Secunderabad -----

2)D.Mrunalini, Student, CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

3)E.Anusha, Student, CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

4)M.Bhargav , Student CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

5)N.Durgabhavani, Student, CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

6)S.Sampath, Student, CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

7)M.Rajkumar, Student, CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

8)Stevenson Battu, Student. CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

9)Simon Daniel, Student, CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

10)Arbazuddin , Student CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

11)P.Mahesh, Student, CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

12)T.Vinaykumar, Student, CE

Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----

(57) Abstract :

This invention replaces glass fiber and copper fiber reinforcement with M30 grade self-compacting conventional concrete. The variables involved in the study are type and different percentage of fibers. The basic properties of fresh SCC and mechanical properties, compression strength, Split Tensile Strength, Flexural Strength of hardened concrete were studied. The fibers used in the study are 12 mm long glass fiber and copper fiber. The volume fractions of fiber taken are 0%, 1%, 1.5%, 2%, and 2.5%. This work was completed in two stages. The first stage consisted of the development of SCC mix design of M30 grade and in the second stage, different fibers like Glass fiber are added to the SCC mixes and their fresh and hardened properties were determined and compared. The investigation showed significant enlargements in all properties of self-compacting concrete by adding fibers of different types and volume fractions. CFRSCC exhibited the best performance followed by The SCC and GFRSCC mixtures had a cement replacement of 25% fly ash and addition of glass fiber at 0.05%, 0.10%, 0.15% and 0.2% on total volume of mix. For testing its properties in the fresh state, slum-flow test, L-box and V-funnel were used. Compression (strength of 7 and 28 days), flexural and split tensile strength tests were carried out.

No. of Pages : 12 No. of Claims : 5