



Properties of Concrete using Manufactured Sand as Fine Aggregate

S. MuraliKrishnan^{1*}, T.Felix Kala², P.Asha³ & S. Elavenil⁴

^{1,3}Dept of Civil Engg, St. Peter's University, Avadi, TamilNadu, India.

²Dept of Civil Engg, Dr. M.G.R. University, Maduravoyil, TamilNadu, India. ⁴Dept of Civil Engg, Vellore Institute of Technology, Chennai, TamilNadu, India.

Abstract:The paper focuses on the experimental study of using locally available M-Sand as fine aggregate and partial replacement of cement with admixtures in the production of HPC with 28 days strength to the maximum of 60Mpa. The percentage of M-sand added by weight was 0, 25, 50, & 75% as a replacement of sand used in concrete and cement was replaced by adding GGBS with 0, 5, 10, & 15% and the dosage of superplasticizers added 0, 1, 1.3% by the weight of cement. The present paper focuses on investigating characteristics of M60 concrete with partial replacement of cement with Ground Granulated Blastfurnace Slag (GGBS) and fine aggregate with the Manufactured sand. In the Strength characteristics study, the Flexural strength were determined experimentally for the conventional and M-Sand concrete. The flexural property of concrete is enhanced by partial replacement of sand with 50% of M-Sand substantially compared to normal mix concrete increased the Flexural Strength of High Performance Concrete.

Keywords:Manufactured sand, GGBS, Flexural Strength, Super plasticizers, Workability, HPC.

International Journal of ChemTech Research, 2018,11(03): 94-100.

DOI : <http://dx.doi.org/10.20902/IJCTR.2018.110337>
