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An Experimental Study on Performance and Durability of Hardened Concrete using Alccofine and Copper Slag

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Abstract : This paper presents the experimental investigation done on strength properties and durability characteristics of concrete using “Alccofine and Copper Slag”. In this study, M20 grade of concrete was designed and tests were carried out with different percentage of copper slag as a fine aggregate and constant percentage of Alccofine(10%) for cement in concrete. The concrete is made by replacing Alccofine 10% by weight of cement and replacing Fine aggregate by Copper Slag with various percentages like 30%, 40%, and 50%. For strength parameters the compressive, tensile and flexural strength are found. For durability parameters Rapid Chloride Penetration test, Water Permeability test, Sea water attack test, Chloride resistance test and density test are found. From experimental work and results it can be accomplished that the 40% is ideal percentage replacement of sand by copper slag.

Key words : Strength Parameters, Durability Parameters, Alccofine, Copper Slag.

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