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Flexural Behavior of Reinforced Steel Slag Concrete Beams using Finite Element Analysis

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Abstract : Now a day's concrete plays a major role in construction industry. Availability of construction material is less day by day. So we can introduce a new kind of material in construction industry to reduce the cost as well as user friendly material. The main objectives of the project, by using the available waste material to introduced in concrete industry. Fully replacement of concrete is not possible, so we can made an attempt to develop partial replacement of concrete material. While making steel there is about 20% slags for every ton of steel. Slag metal content can be 10-25%. Apart from these productions of cement with emission of CO_2 is more. So we can control the emission of CO_2 by partial replacement of steel slag instead of cement. The replacement of cement by steel slag is 5%, 10%, 15%, 20%. Normally, the property testing of concrete takes more time to identified accurately. At the same time, material, human effect, is also waste. So we can concerned with it major aspects, to introduce the analysis system by using ANSYS software. In this software, it takes only 3 to 4 hours for analyzing the results. It is a better way to analysis the results in fast growing industry. So we do not waste the materials for testing purpose and time consumptions with high degree of accuracy.

Keywords: Reinforced concrete beams, finite elements analysis, ANSYS, Reinforcement modeling.

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