

# ICES 2024

**TITLE OF PROJECT: PRODUCTION OF SUSTAINABLE COARSE AGGREGATE USING INDUSTRIAL BYPRODUCTS**

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**ABSTRACT (150-300 words):**

The construction industry's continuous quest for sustainable practices has led to the exploration of alternative construction materials that minimize environmental impact while maintaining structural integrity. Aggregate constitutes the major part of any concrete construction. Conventional aggregates are obtained directly from nature. The major problem associated with conventional aggregates is the depletion of resources. The project work describes the utilization of industrial slag which is dumped as landfill. The slags used are copper slag and steel slag (Ground granulated blast furnace slag). These light weight aggregates are produced using various raw materials to enhance their properties with the help of pelletization equipment. The curing methods used are cold bonding and hot water curing. Findings of this research was a comparative study between conventional aggregate and produced light weight aggregate to evaluate its feasibility. The project on sustainable coarse aggregates utilizing industrial byproducts has emerged as a pioneering endeavor with transformative implications for the construction industry. Moreover, the emphasis on innovation, collaboration, and knowledge dissemination has positioned sustainable coarse aggregates as a feasible and advantageous solution.

**KEYWORDS:** light weight aggregates, industry by-product, sustainability, reduced carbon footprint

**CATEGORY:** Concrete Technology and Building Materials