

## **Sustainability in Using Recycled Aggregate**

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### **ABSTRACT**

C&DW is among the most common types of trash collected around the world, and it's utilized to create recycled aggregates. Around the world, between 12 and 22 tonnes of construction trash are collected. Construction and demolition waste (C&DW) includes a diverse spectrum of materials resulting from a variety of operations, including construction, restoration, demolition, land clearing, and even natural disasters. Flakiness index, elongation index, and water absorption are all parameters of recycled aggregate. Recycled Concrete Aggregate (RCA) is a building material that can also be used for pavements and walkways. The debris gathered from building and demolition sites is pulverized into small pieces and used for a number of purposes. Most important problem that is to be considered is the growing demand for the natural aggregate as the population increases. In this paper, research on recycled concrete aggregate is conducted to address the shortage of raw materials and to analyze the performance of the RAC and natural aggregate. Recycled aggregate has been used as a constituent in concrete production. The life cycle assessment (LCA) of Recycle Aggregate and the natural aggregate is studies to know the sustainability of the material. LCA is a tool that is used for evaluating, comparing and improving the environmental impacts of the product within their life cycle. The recycled aggregates were collected from the construction wastes from the nearby sites. LCA for treated recycled aggregate and non-treated recycled aggregate were performed to know their performance. The use of LCA can improve the development of product and explore the properties.

**Keywords:** *Recycled Aggregate, C&DW, Life Cycle Assessment (LCA)*