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Use of aggregates from recycled construction and demolition waste in concrete

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Abstract

Construction and Demolition (C&D) waste constitutes a major portion of total solid waste production in the world, and most of it is used in land fills. Research by concrete engineers has clearly suggested the possibility of appropriately treating and reusing such waste as aggregate in new concrete, especially in lower level applications. This paper discusses different aspects of the problem beginning with a brief review of the international scenario in terms of C&D waste generated, recycled aggregates (RA) produced from C&D waste and their utilization in concrete and governmental initiatives towards recycling of C&D waste. Along with a brief overview of the engineering properties of recycled aggregates, the paper also gives a summary of the effect of use of recycled aggregate on the properties of fresh and hardened concrete. The paper concludes by identifying some of the major barriers in more widespread use of RA in recycled aggregate concrete (RAC), including lack of awareness, lack of government

support, non-existence of specifications/codes for reusing these aggregates in new concrete.



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Keywords

Construction and demolition waste; Waste management; Recycling; Recycled aggregates; Recycled aggregate concrete; Durability

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