

Masonry Blocks with Recycled Aggregates and Recycled Glass

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Abstract : The demolished concrete is a major component of the construction and demolition (C&D) waste. The recycled aggregates obtained by crushing the demolished concrete can be used as a substitute of natural aggregates. Another major C&D waste is the flat glass. This glass can be also recycled and used as an aggregate substitute. The objective of this study is to determine the influence of the use of recycled concrete aggregates and recycled glass on the compressive strength and fire resistance of precast concrete masonry blocks. Tests are carried out on four series of blocks whose compositions include different percentages of recycled aggregates and recycled glass and one series of reference blocks whose composition consists of exclusively natural aggregates. The recycled coarse aggregates and recycled glass have 6.3/12.5 mm fraction and the natural aggregates have 0/6.3 mm fraction; no recycled fine aggregates are included in concrete mixes.

Keywords : compressive strength, precast concrete blocks, recycled aggregates, recycled glass

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