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Recent advances in carbonation curing for improving properties of belite-rich cement

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ABSTRACT

Belite-rich cement (BRC), recognized for its reduced carbon footprint in comparison to conventional Portland cement, has emerged as an eco-friendly alternative within the construction sector. Nonetheless, its application has been constrained due to its slower strength development. Carbonation curing has been pinpointed as an effective strategy to mitigate this limitation, offering not only an expedited strength gain but also enhanced durability and environmental advantages through the sequestration of CO_2. Consequently, this overview delineates a thorough examination of the latest progress in carbonation curing methodologies aimed at augmenting the attributes of BRC. This encompasses an analysis of the impact of carbonation curing on the mechanical and physicochemical characteristics of BRC-based materials when subjected to elevated temperatures, alongside the exploration of advanced carbonation techniques for cementitious materials.

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