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(57) Abstract :

Disclosed is a method for producing fly ash (FA)-based pelletized geopolymer coarse aggregates includes selecting the experimental parameters of geopolymerization and designing their respective levels of variation for the production of FA-based coarse aggregates, designing suitable orthogonal arrays, performing the production of FA-based coarse aggregates with the inclusion of additive admixture that is, burnt lime (BL), mixing lump-free materials to be pelletized, said lump-free materials comprising FA and BL, resulting in the production of FA-BL aggregates, introducing the mixed lump-free materials into a disc pelletizer, spraying a prepared alkali solution over the lump-free materials within 3 minutes of initiating the pelletization process, and curing the pelletized FA-BL, aggregates under ambient temperature conditions 28 ± 2 °C for distinct curing ages of 14, 28 and 100 days.

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