

## Self-Compacting White Concrete Mix Design Using the Particle Matrix Model

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**Abstract :** White concrete facade elements are widely used in construction industry. It is challenging to achieve the desired workability in casting of white concrete elements. Particle Matrix model was used for proportioning the self-compacting white concrete (SCWC) to control segregation and bleeding and to improve workability. The paper presents how to reach the target slump flow while controlling bleeding and segregation in SCWC. The amount of aggregates, binders and mixing water, as well as type and dosage of superplasticizer (SP) to be used are the major factors influencing the properties of SCWC. Slump flow and compressive strength tests were carried out to examine the performance of SCWC, and the results indicate that the particle matrix model could produce successfully SCWC controlling segregation and bleeding.

**Keywords :** white concrete, particle matrix model, mix design, construction industry

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