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Production Planning of Free-form Concrete Panels using 3D Plastering Technology

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Abstract - A technology has been developed to produce low-cost high-quality FCP (free-form concrete panel) using materials such as glass and pulp. However, FCP production and installation should meet required schedules in order for such technological development to be applied in practice. If it is not possible for the production to satisfy the installation schedules, sufficient lead time should be granted; otherwise, an additional 3D plastering machine is required. This then would give rise to cost and time conflicts. Therefore, an analysis on processes and influential factors relating to FCP production-installation is necessary after which algorithms should be created to link these processes and factors in a systematic method. This study is aimed at production planning of free-form concrete panels using 3D plastering technology. For the purpose of this study, an influential factor analysis and production planning shall be performed in a phased approach. The results of this study are expected to be used as a crucial reference in developing models that can simulate FCP production-installation in various ways.

Keywords**:** Free-form concrete panel, 3D plastering technique, production plan, lead time.