TECHNICAL ANALYSIS OF PRECAST BEAM BY USING U-SHELL METHOD
(A CASE STUDY: *LIVING WORLD* BUILDING PEKANBARU)

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Abstract

Precast concrete is technology of constructing concrete structures with molded components in a particular site (off-site fabrication), sometimes they are pre-assembled, and then installed in the project site (installation), therefore this precast system will be different from monolith construction especially on the planning aspect which depends on or also determined by the implementation method of the fabrication, unification, and installation, and also determined by technical behavior of the precast system in connecting the joint components.

The objective of this study was to analyze the changes in the structural behavior of precast beam from pre-composite condition (U-Shell beam) to composite condition (full beam). Living World building Pekanbaru was built using U-Shell precast beam method, precast method of U-Shell system was a beam work method where the beam structure was divided into two, the first part used precast and the last part used cast-in-situ concrete. U-Shell served as a permanent formwork. Basically, the beam planning by using U-Shell method was similar to the beam planning by using monolith or conventional method.

The changes in structural behavior were due to momentum changes which occurred in each condition, when lifting, before the composite and after the composite. The occurrence of the moment change in the composite before after the composite is due at the time before the composite beam still receives its own weight, whereas for the condition after the composite change the moment of occurrence because the beam has received its own load and other loads such as plates and additional loads. There are differences in reinforcement from the planner and the results of the analysis caused by the analysis of the beam is only calculated simply.

***keywords** : Beam, Pracast, U-Shell Precast.*