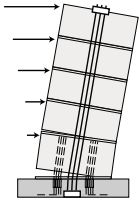


HYBRID PRECAST WALL SYSTEMS

FOR SEISMIC REGIONS



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January 24, 2010

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Industry Meeting Resolutions

Meeting Date: August 10, 2010

Meeting Venue: Tele-Conference

Attendance: W. Korkosz, K. Baur, D. Dieter, M. McGinnis, Y. Kurama, B. Smith

The following resolutions were made during the meeting:

Results from Specimen #3 (Emulative Wall)

- The performance of Specimen #3 was reviewed with specific focus given to the permanent axial heightening of the structure at the base. This phenomenon led to excessive horizontal shear-slip at the foundation-to-panel joint and concrete degradation through localized wall splitting around the energy dissipating (E.D.) bars.
- The permanent axial heightening was not observed in the hybrid wall specimens due to the restoring force provided by the post-tensioning (PT) steel.

Action Plan for Specimen #4 (Hybrid Wall): E.D. Bar Construction Detail

- Based on the observed performance of Specimen #2 (hybrid wall), the use of Type 2 splice connections for the E.D. bars will be avoided in Specimen #4.
- The E.D. bars will be cast into the base panel with the full development length of the bars projecting beyond the bottom of the panel. This will allow the unbonded length of the E.D. bars and the strain gauges adhered to the bars to be cast within the base panel and avoid being subjected to damage during the erection of the structure.
- The E.D. bars projecting beyond the base panel will be grouted into 3-in. diameter ducts cast inside the foundation beam. Dave Dieter will provide the grout specification typically used by Mid-State Precast in such circumstances.

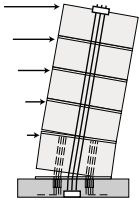
Action Plan for Specimen #4 (Hybrid Wall): E.D. Bars Debonded Length

- The debonded length of the E.D. bars will be designed such that the predicted strain in the extreme bar at the validation drift (2.3% drift) will equal approximately one-half of the measured strain at the peak stress of the steel under monotonic material testing.

This project is funded by the Charles Pankow Foundation and the Precast/Prestressed Concrete Institute. Any opinions, findings, conclusions, and/or recommendations expressed in this material are those of the researchers and do not necessarily represent the views of the sponsors.

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- After the tele-conference, material tests were conducted at Notre Dame. The measured monotonic strain at peak stress of the E.D. rebar was 0.124-in./in. Therefore, the debonded length for the E.D. bars was selected as 15-in. since this length corresponds to a predicted bar strain (at the validation drift) of 0.061-in./in. (or 49% of the measured monotonic strain at peak stress).

Action Plan for Specimen #4 (Hybrid Wall): Other Reinforcement Detailing

- To ensure against premature confined concrete failure, one additional confinement hoop will be placed within the cages located at the toes of the base panel.
- To prevent potential splitting of the wall (as observed in the emulative specimen), reinforcing hoops will be placed at the bottom of the base panel around the E.D. bars and the PT ducts, as well as at the bottom of the upper panel around the panel-to-panel reinforcement. If no cracking indicative of potential splitting is observed during the testing of Specimen #4, then these additional reinforcing hoops will not be used in future tests.
- All other reinforcement details in Specimen #4 will remain similar to Specimen #2.

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