

## **3-D LARGE SCALE HOUSE TESTS**

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### Abstract

Beginning in early 2006, APA expanded its laboratory to include the capability of testing full-scale houses with floor plans of 7.5 m x 11.5 m (25 ft x 37.5 ft). Monotonic testing was conducted on 22 different house configurations. The 22 different house configurations had an identical plan view, but the details of the four walls changed for each house tests. Although the testing program was fundamentally intended to examine the International Residential Code prescriptive wall bracing requirements using wood structural panels, some of the house configurations were conducted such that the walls were very similar to designed shear walls with openings (perforated shear walls). A number of the issues studied were:

1. Length of wall effect on isolated wall bracing, with and without hold downs
2. Effects of corners, and location of braced panels
3. Comparison of isolated and continuous bracing methods
4. Comparison of panel geometry on continuous sheathing
5. Comparison of APA Narrow Wall Bracing Method to isolated bracing
6. End fixity (return wall or hold down) impacts on continuous sheathing
7. Distribution of lateral loads to each wall
8. Bracing placement in wall line

This paper will summarize testing to date on an on-going test program that studies the three dimensional behavior of wood frame structures.