

Xi WINDBORNE MISSILE IMPACT TEST SUMMARY



SUMMARY

Windborne Missile Impact Test for
Superior Walls Xi Wall System
by Clemson University
Conducted March 4, 2002.

Windborne missile impact tests were performed on the Superior Walls Xi Wall System on March 4th, 2002. The tests were performed at the Superior Walls facility in Oxford, North Carolina. The purpose of the testing was to determine whether the Superior Walls Xi above grade wall panels meet the following three Large Missile Impact tests, as specified in the South Florida Building Code, ASTM E1996, and the SBCCI standard SSTD 12.

The largest missile specified in all these standards is a 9 pound 2x4 piece of lumber. For all buildings, other than essential facilities (hospitals and hurricane shelters), the missile impact speed specified for regions with the highest design wind speeds in the US is 50 feet per second (34 mph) in all three standards (at the time the test was conducted). In order for a product to pass the test, the South Florida Building Code's impact standard allows no penetration of the wall.

The Superior Walls Xi system was tested with multiple impacts of 9 pound 2x4s onto the test panel. Impacts were made at various portions of the wall until the threshold for penetration and spalling was determined.

Conclusion:

The Superior Walls Xi wall panels were tested using windborne missile impact tests. The wall specimens resisted impacts of a 9 pound 2x4 missile at speeds in excess of 34 mph.

Additional resistance to impacts may be obtained with the addition of wire mesh in the face shell. Brick or stone veneer would also improve impact resistance.