

## SBCCI SSTD 12

### LARGE MISSILE IMPACT TEST: Height and grade up to and including 30.0 feet.

- **Impact Option 1:** Three identical test specimens, each specimen is impacted twice. One at the center and one within 6" (152mm) of a corner.
- **Impact Option 2:** Six test specimens, each impacted once. Three specimens at center, three specimens impacted within 6" (152 mm) of a corner.
- **Options 1 and 2** consists of a 2" x 4" Timber.
- Weight and speed of the 2" x 4" Timber specific to windspeed:

90 < windspeed = 100 4lb. (2kg) missile impacting at a speed of 40 ft. (12m)/sec
100 < windspeed = 1108 4lb. (4kg) missile impacting at a speed of 40 ft. (12m)/sec
Windspeed = 110 9 lb. (4kg) missile impacting at a speed of 50 ft. (12m)/sec

- **Impact Option 3**-pendulum impact apparatus. Refer to test standard for impact criteria.
- To past test no penetration is allowed in which a 3" (76 mm) diameter sphere can pass. (**Impact Options 1-3**)
- The cyclic pressure loading test is not required when at one ply of the impact glass product does not beak during missile impact test and the material is designed to withstand the design wind pressure. (**Impact Options 1-3**)

### SMALL MISSILE IMPACT TEST: Height above 30 feet (9m).

- Three identical test specimens.
- Test is conducted with steel balls each weighing 2 grams and impacting at a speed between 130 ft. per sec. and 132 ft. per sec.
- Test consist of thirty small missile impacts: 110 at the center, 10 at the center/long dimension side, 10 at the corner
- The specimen passes the impact test if/when no penetrations are created in which a 3" (76 mm) diameter sphere can pass through.
- All three specimens must pass prior to proceeding to the cyclical pressure loading test.

**NOTE:** The cyclic pressure loading test is not required when at least one ply of the impacted glass make-up does not fracture during missile impact test and the ply is designed to withstand the design wind pressure.

## CYCLIC WIND PRESSURE LOADING

### SFBC and SBCCI

Test specimens passing the large and small missile impact test criteria move on to the cyclic wind pressure test.

Inward Acting Pressure		Outward Acting Pressure	
Range	Number of Cycles	Range	Number of Cycles
0.2 Pmax to 0.5 Pmax	3,500	0.3 Pmax to 1.0 Pmax	50
0.0 Pmax to 0.6 Pmax	300	0.5 Pmax to 0.8 Pmax	1,050
0.5 Pmax to 0.8 Pmax	600	0.0 Pmax to 0.6 Pmax	50
0.3 Pmax to 1.0 Pmax	100	0.2 Pmax to 0.5 Pmax	3,350

**Pmax:** Denotes the maximum design load allowed in accordance with ASCE 7-88. "Minimum Design Loads for Buildings and Other Structures."

### Pass/Fail Criteria

**SFBC - Dade County Addition:** A particular system of construction shall be deemed to comply with this recommended practice if three test specimens reject the missile impacts without penetration and resist the cyclic pressure loading with no cracks forming which are longer than 5" and 1/16" wide through which air can pass.

**SBCCI SSTD 12:** The test specimens shall resist the missile impacts prescribed and resist the cyclical pressure loading with no cracks forming longer that 5" through which air can pass or with no opening through which a 3" diameter sphere can pass.