

# PANORAMIC DOORS

# FLORIDA BUILDING

# CODE TEST REPORT

**SCOPE OF WORK**

TAS 201, TAS 202, AND TAS 203 TESTING ON SERIES COASTAL STORM DOOR

**REPORT NUMBER**

92597.01-801-18 R0

**TEST DATE(S)**

04/03/23 - 04/06/23

**ISSUE DATE**

04/21/23

**RECORD RETENTION END DATE**

04/03/33

**MIAMI-DADE COUNTY NOTIFICATION NO.**

ATI 3242301

**LABORATORY CERTIFICATION NO.**

22-0428.10

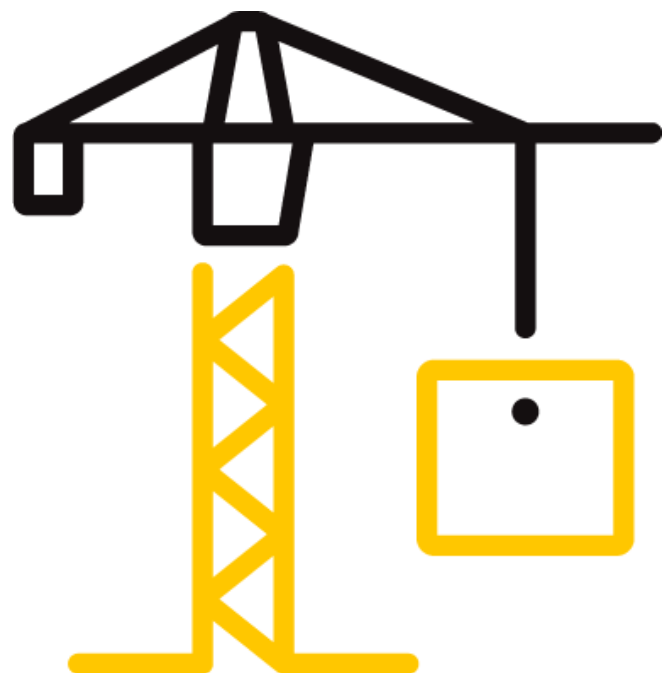
**PAGES**

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**DOCUMENT CONTROL NUMBER**

RT-R-AMER-Test-2816 (07/12/22)

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## SECTION 1

### SUMMARY OF TEST RESULTS

The specimen tested met the performance requirements set forth in the protocols.

**Product Type:**

**Series/Model:**

| SPEC. | TEST PROTOCOL               | DESIGN PRESSURE |
|-------|-----------------------------|-----------------|
| 1     | TAS 202                     | +70 / -70 psf   |
| 1     | TAS 201/203 (Large Missile) | +70 / -70 psf   |

## SECTION 2

### TEST METHOD(S)

The specimens were evaluated in accordance with the following:

**TAS 201-94**, *Impact Test Procedures*

**TAS 202-94**, *Criteria for Testing Impact & Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure*

**TAS 203-94**, *Criteria for Testing Products Subject to Cyclic Wind Pressure Loading*

## SECTION 3

### TEST RESULTS

**Protocol TAS 202-94**, *Static Air Pressure*

**Test Date(s):** 04/03/23 through 04/04/23

The temperature during testing was 23°C (74°F). The results are tabulated as follows:

**Test Specimen #1:** Air Leakage per TAS 202

| TITLE OF TEST  | RESULTS  | ALLOWED  | NOTE |
|--|--|--|------|
| <b>Air Leakage</b> ,<br>Infiltration per TAS 202<br>at 1.57 psf (25 mph) | 0.85 L/s/m <sup>2</sup><br>(0.17 cfm/ft <sup>2</sup> ) | 1.5 L/s/m <sup>2</sup><br>(0.30 cfm/ft <sup>2</sup> ) max. | 1    |
| <b>Air Leakage</b> ,<br>Infiltration per TAS 202<br>at 6.27 psf (50 mph) | 7.4 L/s/m <sup>2</sup><br>(0.29 cfm/ft <sup>2</sup> )  | 1.5 L/s/m <sup>2</sup><br>(0.30 cfm/ft <sup>2</sup> ) max. | 1    |

**Note 1:** Test Date 04/03/23 / Time: 10:00 a.m.

**Test Specimen #1:** Preload and Design Load per TAS 202

| LOAD<br>(psf)                 | INDICATOR<br>LOCATION | DEFLECTION (in.) |         | PERMANENT SET (in.) |         |
|-------------------------------|-----------------------|------------------|---------|---------------------|---------|
|                               |                       | MEASURED         | ALLOWED | MEASURED            | ALLOWED |
| +52.5<br>50% of Test Pressure | 1                     | .33              | N/A     | .02                 | N/A     |
|                               | 2                     | 1.23             | N/A     | .09                 | N/A     |
|                               | 3                     | .35              | N/A     | .02                 | N/A     |

**Test Specimen #1: Preload and Design Load per TAS 202**

| LOAD (psf)                    | INDICATOR LOCATION | DEFLECTION (in.) |         | PERMANENT SET (in.) |         |
|-------------------------------|--------------------|------------------|---------|---------------------|---------|
|                               |                    | MEASURED         | ALLOWED | MEASURED            | ALLOWED |
|                               | 4                  | .16              | N/A     | .01                 | N/A     |
|                               | 5                  | 1.27             | N/A     | .08                 | N/A     |
|                               | 6                  | .42              | N/A     | .03                 | N/A     |
|                               | 7                  | .09              | N/A     | .01                 | N/A     |
| +70.00<br>Design Pressure     | 1                  | .41              |         | .03                 |         |
|                               | 2                  | 1.73             | .65     | .10                 | .23     |
|                               | 3                  | .58              |         | .03                 |         |
|                               | 4                  | .27              |         | .02                 |         |
|                               | 5                  | 1.79             | .65     | .09                 | .23     |
|                               | 6                  | .66              |         | .04                 |         |
|                               | 7                  | .12              | N/A     | .02                 |         |
| -52.5<br>50% of Test Pressure | 1                  | .35              | N/A     | .06                 | N/A     |
|                               | 2                  | 1.19             | N/A     | .09                 | N/A     |
|                               | 3                  | .38              | N/A     | .07                 | N/A     |
|                               | 4                  | .20              | N/A     | .04                 | N/A     |
|                               | 5                  | 1.32             | N/A     | 10                  | N/A     |
|                               | 6                  | .38              | N/A     | .05                 | N/A     |
|                               | 7                  | .11              | N/A     | .01                 | N/A     |
| -70.00<br>Design Pressure     | 1                  | .45              |         | .08                 |         |
|                               | 2                  | 1.81             | .65     | .12                 | .23     |
|                               | 3                  | .63              |         | .06                 |         |
|                               | 4                  | .31              |         | .06                 |         |
|                               | 5                  | 1.83             | .65     | .13                 | .23     |
|                               | 6                  | .71              |         | .09                 |         |
|                               | 7                  | .17              | N/A     | .04                 |         |

**Test Specimen #1: Water Penetration per TAS 202**

| TITLE OF TEST   | RESULTS | ALLOWED    | NOTE |
|---|---------|------------|------|
| Water Penetration, per TAS 202<br>15% of Positive Design Pressure at 480 Pa (10.65 psf) | Pass    | No leakage | 2    |

**Note 2:** Without insect screen.

| LOAD (psf)               | INDICATOR LOCATION | PERMANENT SET (in.) |         |
|--------------------------|--------------------|---------------------|---------|
|                          |                    | MEASURED            | ALLOWED |
| +105.00<br>Test Pressure | 1                  | .03                 |         |
|                          | 2                  | .09                 | .23     |
|                          | 3                  | .11                 |         |
|                          | 4                  | .03                 |         |
|                          | 5                  | .09                 | .23     |

| LOAD<br>(psf)            | INDICATOR<br>LOCATION | PERMANENT SET (in.) |         |
|--------------------------|-----------------------|---------------------|---------|
|                          |                       | MEASURED            | ALLOWED |
|                          | 6                     | .10                 |         |
|                          | 7                     | .02                 |         |
| -105.00<br>Test Pressure | 1                     | .02                 |         |
|                          | 2                     | .08                 | .23     |
|                          | 3                     | .08                 |         |
|                          | 4                     | .03                 |         |
|                          | 5                     | .07                 | .23     |
|                          | 6                     | .08                 |         |
|                          | 7                     | .02                 |         |

**Note 3:** Positive and negative uniform static load test loads were held for 30 seconds.

**Note 4:** Tape and film were used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.

**Note 5:** See Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.

**Test Specimen #1:** Forced Entry Resistance per TAS 202

| TITLE OF TEST                                       | RESULTS | ALLOWED  | NOTE |
|---|---------|----------|------|
| Forced Entry Resistance,<br>per AAMA 1304 ASTM E588 | Pass    | No entry |      |

**Protocol TAS 201-94, Large Missile Impact Procedures**

**Test Date(s):** 04/04/23 through 04/06/23

The temperature during testing was 23°C (74°F). The results are tabulated as follows:

| IMPACT # | MISSILE<br>WEIGHT<br>(lbs.) | MISSILE<br>LENGTH<br>(in.) | MISSILE<br>VELOCITY<br>(ft./sec.) |
|----------|-----------------------------|----------------------------|-----------------------------------|
| 1        | 9                           | 100                        | 50                                |
| 2        | 9                           | 100                        | 50.4                              |
| 3        | 9                           | 100                        | 50.2                              |
| 4        | 9                           | 100                        | 50                                |
| 5        | 9                           | 100                        | 50.8                              |
| 6        | 9                           | 100                        | 50.8                              |

**Note 6:** See Sketch #1 for impact locations.

**Protocol TAS 201-94, Small Missile Impact Procedures**

**Test Date(s):** 04/04/23 through 04/06/23

The temperature during testing was 23°C (74°F). The results are tabulated as follows:

**Protocol TAS 203-94, Cyclic Wind Pressure Loading**

**Test Date(s):** 04/04/23 through 04/06/23

The temperature during testing was 23°C (74°F). The results are tabulated as follows:

**Test Specimen #1: Cyclic Test Spectrum and Average Cycle Time per TAS 203**

| DESIGN PRESSURE                      | STAGE    |          |          |          |
|--------------------------------------|----------|----------|----------|----------|
| +70.0 / 70.0 psf                     | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |
| <b>POSITIVE PRESSURE RANGE (psf)</b> | 14-35    | 0 – 42   | 35-56    | 21-70    |
| <b>AVERAGE CYCLE TIME (sec.)</b>     | 3.0      | 2.9      | 2.9      | 2.8      |
| <b>NUMBER OF CYCLES</b>              | 3500     | 300      | 600      | 100      |
|                                      | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> |
| <b>NEGATIVE PRESSURE RANGE (psf)</b> | 21-70    | 35-56    | 0-42     | 14-35    |
| <b>AVERAGE CYCLE TIME (sec.)</b>     | 2.6      | 2.8      | 2.8      | 2.9      |
| <b>NUMBER OF CYCLES</b>              | 50       | 1050     | 50       | 3350     |

**Test Specimen #1: Positive Cyclic Load per TAS 203**

| INDICATOR LOCATION | MAXIMUM DEFLECTION (in.) | PERMANENT SET (in.) | PERCENT RECOVERY |           |
|--------------------|--------------------------|---------------------|------------------|-----------|
|                    |                          |                     | MEASURED %       | ALLOWED % |
| 2                  | 1.23                     | 0.04                | >90              | > 90      |
| 5                  | 1.51                     | 0.06                | >90              | > 90      |

**Test Specimen #1: Negative Cyclic Load per TAS 203**

| INDICATOR LOCATION | MAXIMUM DEFLECTION (in.) | PERMANENT SET (in.) | PERCENT RECOVERY |           |
|--------------------|--------------------------|---------------------|------------------|-----------|
|                    |                          |                     | MEASURED %       | ALLOWED % |
| 2                  | 1.38                     | .04                 | >90              | > 90      |
| 5                  | 1.48                     | .005                | >90              | > 90      |

**Note 7:** See Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.

## **SECTION 4**

### **CONCLUSIONS**

The large missiles impacted each intended target. Each impact location was carefully inspected. No signs of penetration, rupture, or opening after the large missile impact test were observed; as such, each test specimen satisfies the requirements of TAS 201. Upon completion of testing, specimens tested for TAS 201 large -94 met the requirements of Section 1626 of the Florida Building Code, Building.

AND

No signs of failure were observed in any area of the test specimen during the TAS 202 testing; as such, the test specimen satisfies the requirements of TAS 202. Upon completion of testing, specimens tested for TAS 202-94 met the requirements of Section 1620 of the Florida Building Code, Building.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.