LEGACY REPORT

2312A

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The Subcommittee on Evaluation has reviewed the data submitted for compliance with the *Standard Building Code©, the SBCCI Standard for Hurricane Resistant Residential Construction© SSTD 10-99*, and the Florida Building Code and submits to the Building Official or other authority having jurisdiction the following report. The Subcommittee on Evaluation, ICC-ES and its staff are not responsible for any errors or omissions to any documents, calculations, drawings, specifications, tests or summaries prepared and submitted by the design professional or preparer of record that are listed in the Substantiating Data Section of this report.

REPORT NO.: 2312A

EXPIRES: See the current EVALUATION REPORT LISTING

CATEGORY: DOORS AND WINDOWS

SUBMITTED BY:

ALL AMERICAN SHUTTERS, INC.
1540 DONNA ROAD
WEST PALM BEACH, FLORIDA 33409

1. PRODUCT TRADE NAME

Safety Edge System (22 Gage Galvanized Steel)
Safety Edge System (24 Gage Galvanized Steel)

2. SCOPE OF EVALUATION

2.1 Impact Resistance
2.2 Structural - Transverse Wind Loads

3. USES

The 22 & 24 Gage Galvanized Steel Storm Panels are used to protect glazed openings and doorways from windborne debris.

4. DESCRIPTION

4.1 General

The Safety Edge System 22 & 24 Gage Galvanized Steel Storm Panels are corrugated galvanized steel sheets. The 22 gage panels conform to ASTM A653 SS, Grade 80, with a G90 galvanized coating. The 24 gage panels conform to ASTM A653 SS, Grade 50 (Class 1), with a G60 galvanized coating. The full panels are 14.875 inches (378 mm) wide and 2.0 inches (51 mm) deep. Panels are overlapped for unlimited width openings. Extrusions for mounting panels are 6063-T6 aluminum alloy. Mounting extrusions are “h” Header, “U” Header, Build-Out “U” Header, “F” Track, Build-Out “F” Track, “F” Angle Track, “C” Track, J-Pan Closure, Stud Angle and Angle. See Table 1 & 2 of this report for allowable loads and spans.

4.2 Large Missile Impact Resistance

The Safety Edge System 22 Gage and 24 Gage Galvanized Steel Storm Panel, as described in this report, were tested for large missile impact resistance under SSTD 12-99. The panels tested passed the large missile impact test. The panel list in this report may be used to protect glazed openings and doorways from windborne debris.

4.3 Wind Loads

The Safety Edge System 22 Gage and 24 Gage Galvanized Steel Storm Panel was designed for wind pressures and tested in accordance with ASTM E-330. Allowable transverse wind loads are given in Table 2.

5. INSTALLATION

5.1 General

The manufacturer's published installation instructions and this report shall be strictly adhered to and a copy of these instructions shall be available at all times on the job site during installation. The instructions within this report govern if there are any conflicts between the manufacturer's instructions and this report.

5.2 Allowable Transverse Wind Loads

The Design Wind Loads on the panel shall be determined in accordance with 1606 of the *Standard Building Code*© or the *Florida Building Code* and shall not exceed the Allowable Transverse Wind Loads shown in Table 1 and 2 of this report.

TABLE 1
ALLOWABLE TRANSVERSE WIND LOAD
Safety Edge System - 22 Gauge Panels

Negative Design Load (PSF)	Maximum Storm Panel Length		
	Fasteners @ 6.25" o.c. No Stitch Bolts L_{max} (ft)	Fasteners @ 12.5" o.c. No Stitch Bolts L_{max} (ft)	Fasteners @ 12.5" o.c. With Stitch Bolts L_{max} (ft)
30	12'-8"	12'-8"	12'-8"
33	12'-8"	12'-6"	12'-8"
35	12'-8"	12'-2"	12'-8"
40	12'-8"	11'-4"	12'-2"
41	12'-8"	11'-3"	12'-1"
45	12'-8"	10'-9"	11'-6"
48	12'-4"	10'-4"	11'-2"
50	12'-1"	10'-2"	10'-11"
52	11'-10"	10'-0"	10'-8"
55	11'-7"	9'-8"	10'-5"
60	11'-1"	9'-3"	9'-11"
65	10'-7"	8'-11"	9'-7"
70	10'-3"	8'-7"	9'-0"
75	9'-11"	8'-0"	8'-4"
80	9'-7"	7'-6"	7'-10"
90	9'-0"	6'-8"	7'-0"
100	8'-7"	6'-0"	6'-3"
110	8'-2"	5'-5"	5'-8"
120	7'-10"	5'-0"	5'-3"
130	7'-6"	4'-7"	4'-10"
140	7'-3"	4'-3"	4'-6"
150	7'-0"	4'-0"	4'-2"
160	6'-9"	3'-9"	3'-11"
170	6'-7"	3'-6"	3'-8"
180	6'-4"	3'-4"	3'-6"
190	6'-2"	3'-1"	3'-3"
200	6'-0"	3'-0"	3'-1"

1. SI: 1 in = 25.4 mm, 1 ft = 0.3 m, 1 psf = 48 Pa
2. Refer to engineering drawing for the Anchor Schedules and installation details.
3. Concrete and masonry anchors require Special Inspection during installation.

TABLE 2
ALLOWABLE TRANSVERSE WIND LOAD
Safety Edge System - 24 Gauge Panels

Negative Design Load (PSF)	Maximum Storm Panel Length	
	Fasteners @ 6.25" o.c. No Stitch Bolts L_{max} (ft)	Fasteners @ 12.5" o.c. No Stitch Bolts L_{max} (ft)
30	12'-0"	10'-2"
33	11'-6"	9'-8"
35	11'-2"	9'-5"
40	10'-5"	8'-10"
41	10'-3"	8'-8"
45	9'-10"	8'-0"
48	9'-6"	7'-6"
50	9'-4"	7'-2"
52	9'-2"	6'-11"
55	8'-11"	6'-6"
60	8'-6"	6'-0"
65	8'-2"	5'-6"
70	7'-10"	5'-1"
75	7'-7"	4'-9"
80	7'-4"	4'-6"
90	6'-11"	4'-0"
100	6'-7"	3'-7"
110	6'-3"	3'-3"
120	6'-0"	3'-0"
130	5'-6"	2'-9"

1. SI: 1 in = 25.4 mm, 1 ft = 0.3 m, 1 psf = 48 Pa
2. Refer to engineering drawing for the Anchor Schedules and installation details.
3. Concrete and masonry anchors require Special Inspection during installation.

6. SUBSTANTIATING DATA

6.1 Manufacturer's specifications, and installation drawings:
- Frank L. Bennardo, P.E. Consulting Engineer Job No. 01-696-85 (A), sheets 1 thru 7, Revision dated May 23, 2003, prepared, signed, sealed, and dated by Frank Bennardo, P.E.
- Certificates of Inspection for Aluminum Extrusions, Alloy 6063 T6, ASTM B 221, extruded by The William L. Bonnell Company, Inc., dated November 4, 2002.

6.2 Test report on large missile impact loadings under SSTD 12-99, and transverse loads in accordance with ASTM E 330, for 24 gauge panels, prepared by Construction

Testing Corporation, Report No. 02-001, February 4, 2002, signed by George Dotzler.

6.3 Engineering calculations on Safety Edge System for allowable wind pressures based on testing and Section F of the AISI Design Manual, prepared by Frank Bennardo, P.E., Consulting Engineer, dated June 3, 2002, signed and sealed by Frank Bennardo, P.E.

6.4 Test report on transverse loads in accordance with ASTM E330-90, for 22 gauge panels, prepared by Construction Testing Corporation, Report No. 02-002, April 8, 2002, signed by George Dotzler.

6.5 Test report on large missile impact loadings under SSTD 12-99, and transverse loads in accordance with ASTM E 330, for 22 gauge panels, prepared by Construction Testing Corporation, Report No. 03-001, January 14, 2003, signed by George Dotzler and Yamil G. Kuri, P.E.

6.6 Test report on wood bushings accordance with ASTM D1761-90, prepared by Construction Testing Corporation, Report No. 02-038, October 7, 2002, signed by George Dotzler.

7. CODE REFERENCES

Standard Building Code© - 1999 Edition

Section 103.7	Alternate Materials and Methods
Section 1606	Wind Loads
Chapter 17	Structural Tests and Inspections
Section 1707.4	Exterior Window and Door Assemblies
Chapter 22	Steel
Section 2204	Cold-Formed Steel Construction

SBCCI Standard for Hurricane Resistant Residential Construction © SSTD10-99

Section 101.3	Integrity of Building Envelope
Section 101.4	Alternate Materials and Methods
Section 101.6	Design Concepts
Section 104	Design Criteria
Section 104.1	Wind Loads
Appendix B	Design Load Assumptions

Florida Building Code© - 2001 Edition

Section 103.7	Alternate Materials and Methods
Section 1606	Wind Loads
Chapter 17	Structural Tests and Inspections
Section 1707.4	Exterior Window and Door Assemblies
Chapter 20	Light Metal Alloys

8. COMMITTEE FINDINGS

The Subcommittee on Evaluation in review of the data submitted finds that, in their opinion, the Safety Edge System 22 & 24 Gage Galvanized Steel Storm Panels as described in this report conform with or are suitable alternates to that specified in the *Standard Building Code*©, the *SBCCI Standard for Hurricane Resistant Residential Construction© SSTD 10-99*, and the Florida Building Code or Supplements thereto.

9. LIMITATIONS

9.1 This Evaluation Report and the installation instructions, when required by the building official, shall be submitted at the time of permit application.

9.2 The Safety Edge System 22 & 24 Gage Galvanized Steel Storm Panels shall be installed in accordance with the installation instructions in this report and the manufacturer's engineering drawings.

9.3 The structural elements supporting the panels shall be designed by a registered professional engineer for the wind loads shown on the drawings. The calculations shall be signed, sealed, and dated and submitted to the building official when applying for a permit.

9.4 The Safety Edge System 22 & 24 Gage Galvanized Steel Storm Panels have only been evaluated as a structural element and impact resistant element in one plane. No test or calculations where submitted to indicate the panels abilities as a multi-plane unit. If required by the building official, the supplier must provide information to support the panel's ability to turn corners.

9.5 Wood to which the panel systems are attached shall be a minimum of No. 2 Southern Pine with a minimum specific gravity of 0.55.

9.6 Concrete and masonry anchors require Special Inspection during installation.

10. IDENTIFICATION

Each Safety Edge System 22 & 24 Gage Galvanized Steel Storm Panel covered by this report shall be labeled with the manufacturer's name and/or trademark, the SBCCI Public Safety Testing and Evaluation Services Inc. seal or initials (SBCCI PST & ESI), and the number of this report for field identification.

The panels shall also be labeled in accordance with Section 102 of SSTD 12.

11. PERIOD OF ISSUANCE

SEE THE CURRENT EVALUATION REPORT LISTING FOR STATUS OF THIS EVALUATION REPORT.

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