



ICC Evaluation Service, Inc.
www.icc-es.org

Business/Regional Office ■ 5360 Workman Mill Road, Whittier, California 90601 ■ (562) 699-0543
Regional Office ■ 900 Montclair Road, Suite A, Birmingham, Alabama 35213 ■ (205) 599-9800
Regional Office ■ 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 ■ (708) 799-2305

The Subcommittee on Evaluation has reviewed the data submitted for compliance with the Standard Building Code®, the SBCCI Standard for Hurricane Resistant Residential Construction® SSTD10-99, the Florida Building Code, and the International One and Two Family Dwelling 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. Portions of this report were previously included in SBCCI PST & ESI Evaluation Report #2210.

REPORT NO.: 2210A

EXPIRES: See the current EVALUATION REPORT INDEX

CATEGORY: DOORS AND WINDOWS

SUBMITTED BY:

WAYNE DALTON CORPORATION
3395 ADDISON DRIVE
PENSACOLA, FLORIDA 32514

1. PRODUCT TRADE NAME

- 1.1 Wayne Mark 8000 Garage Door
1.2 Wayne Mark 8100 Garage Door
1.3 Wayne Mark 8300 Garage Door
1.4 Wayne Mark 8500 Garage Door
1.5 Wayne Mark 5150 Garage Door
1.6 Wayne Mark 5200 Garage Door

2. SCOPE OF EVALUATION

- 2.1 Structural - Transverse Wind Loads
2.2 Structural - Impact Resistance (Florida Building Code Only)
2.3 Surface Burning Characteristics

3. USES

Wayne Mark Series 8000, 8100, 8300, 8500, 5150, and 5200 Garage Doors are used as residential and commercial garage doors with specified allowable wind pressures.

4. DESCRIPTION

4.1 General

The WayneMark Series doors are sectional overhead garage doors for both residential and commercial applications, constructed of galvanized steel sections with a two coat polyester finish. The doors are 1.5 inches and 2 inches thick, with boxshaped stiles and embossed with flush or raised panel wood grain texture, tongue and groove sections.

The WayneMark Series 8000 and 8100 are 2 inch thick raised panel and are the same door with one exception. The Series Model 8000 is non-insulated. The Series Model 8100 is insulated with a 9/16 inch thick expanded polystyrene.

The WayneMark Series 8300 and 8500 are both residential insulated doors with raised panel and flush panel design and are the same door with one exception. The Series 8300 is 1.5 inches thick and the Series 8500 is 2 inches thick. Both doors have a maximum height of 8 feet.

The WayneMark Series 5150 and 5200 are both commercial insulated doors with raised panel and flush panel design and are the same door with one exception. The Series 5150 is 1.5 inches thick and the Series 5200 is 2 inches thick. Both doors have a maximum height of 16 feet.

4.2 Model 8000

WayneMark 8000 Series Garage Doors are constructed of 24 and 26 gauge ASTM A653-00 Forming Steel FS Type B, minimum yield of 56 ksi, with a finish equal to ASTM A525 made up of a G30 finish on 26 gauge doors and G90 finish on 24 gauge doors, covered with two coats of polyester paint with 16 gauge steel end stiles and 20 gauge steel center stile.

4.3 Model 8100

WayneMark 8100 Series Garage Doors are constructed of 24 and 26 gauge ASTM A653-00 Forming Steel FS Type B, minimum yield of 56 ksi, with a finish equal to ASTM A525 made up of a G30 finish on 26 gauge doors and G90 finish on 24 gauge doors, covered with two coats of polyester paint with 16 gauge steel end stiles and 20 gauge steel center stile. The Series 8100 is insulated with a 9/16" thick expanded polystyrene board.

4.4 Model 8300

WayneMark 8300 Series Garage Doors are constructed of 28 gauge ASTM A653 CS Type B, minimum yield of 42 ksi, with a finish equal to ASTM A525 made up of a G30 finish, covered with two coats of polyester paint with 18 gauge steel end caps.

ICC-ES legacy reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, Inc., express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

4.5 Model 8500

WayneMark 8500 Series Garage Doors are constructed of 28 gauge ASTM A653 CS Type B, minimum yield of 42 ksi, with a finish equal to ASTM A525 made up of a G30 finish, covered with two coats of polyester paint with 18 gauge steel end caps.

4.6 Model 5150

WayneMark 5150 Series Garage Doors are constructed of 28 gauge ASTM A653 CS Type B, minimum yield of 42 ksi, with a finish equal to ASTM A525 made up of a G30 finish, covered with two coats of polyester paint with 18 gauge steel end caps.

4.7 Model 5200

WayneMark 5200 Series Garage Doors are constructed of 28 gauge ASTM A653 CS Type B, minimum yield of 42 ksi, with a finish equal to ASTM A525 made up of a G30 finish, covered with two coats of polyester paint with 18 gauge steel end caps.

4.8 Wind Loads

The WayneMark Series 8000, 8100, 8300, 8500, 5150, and 5200 Garage Doors were subjected to transverse load testing under ASTM E 330 or Miami-Dade County Protocols PA 202. Allowable transverse wind loads are given in Table 1.

Both series of the WayneMark Series 8000, 8100, 8300, 8500, 5150, and 5200 Garage Doors are braced on the inside of the doors with U-Bars and C-Channels running horizontally on each sectional panel or windload post. Each series has several models with different configuration of U-Bars, C-Channels and windload post depending of the amount of wind load resistance required. Each U-Bar is made of 20 gauge ASTM A653-00 Forming Steel FS Type B, minimum yield of 80 ksi, each C-Channel is made of 16 gauge ASTM A653-00 Forming Steel FS Type B, minimum yield of 50 ksi, both with a finish equal to ASTM A525 made up of a G-30 finish, and each windload post is made of 0.125 inch thick 6063-T5 aluminum alloy.

4.9 Door Track

The WayneMark Series 8000 and 8100 Garage Door Tracks are made from 15 and 17 gauge (33,000ksi, ASTM A 653) steel with a galvanized coating (G-40).

4.10 Large Missile Impact Resistance

The WayneMark Series 8000, 8100, 8300, 8500, 5150, and 5200 Garage Doors, as described in this report, were tested for large missile impact resistance under Miami-Dade County Protocol PA-201 and PA-203. The doors tested passed the large missile impact test. The doors listed in Table 2 and 3 of this report may be used as impact resistance doors to protect against windborne debris.

4.11 Surface Burning Characteristics

Series 8100 is insulated with a 9/16" thick expanded polystyrene board which is labeled per Section 2603.2 in both the 1999 Standard Building Code and the 2001 Florida Building Code. The surface burning characteristics of the door was tested in accordance with ASTM E-84 and found to have a flame spread of less than 75 and a smoke development of less than 450.

Series 8300, 8500, 5150, and 5200 is insulated with foamed in place polyurethane insulation to full thickness of each doors. The insulation is labeled per Section 2603.2 in both the 1999 Standard Building Code and the 2001 Florida Building Code. The surface burning characteristics of the doors were tested in accordance with ASTM E-84 and found to have a flame spread of less than 75 and a smoke development of less than 450.

5. INSTALLATION

5.1 General

The WayneMark Series 8000, 8100, 8300, 8500, 5150, and 5200 Garage Doors are installed in accordance with the manufacturer's published installation instructions, engineering drawings, and this report.

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 garage doors shall be determined in accordance with 1606 of the *Standard Building Code*® and the Florida Building Code and shall not exceed the allowable transverse wind loads shown in Table 1.

**TABLE 1
ALLOWABLE TRANSVERSE WIND LOADS**

MODEL	DOOR W (MAX) FT-IN	DOOR H (MAX) FT-IN	DESIGN LOAD POSITIVE (PSF)	DESIGN LOAD NEGATIVE (PSF)	REINFORCEMENTS
8000/8100-0028 ¹	16-0	14-0	22.00	24.66	U-Bars
8000/8100-0108 ¹	9-0	14-0	30.00	30.00	U-Bars
8000/8100-0109 ¹	9-0	14-0	25.00	25.00	U-Bars
8000/8100-0110 ¹	16-0	14-0	27.00	29.00	U-Bars
8000/8100-0119 ^{2,3}	9-0	14-0	37.00	37.00	U-Bars
8000/8100-0113 ^{2,4}	9-0	14-0	37.00	37.00	U-Bars
8000/8100-0120 ^{2,3}	9-0	14-0	46.00	52.00	U-Bars
8000/8100-0114 ^{2,4}	9-0	14-0	46.00	52.00	U-Bars
8000/8100-0121 ^{2,3}	16-0	14-0	31.00	33.00	U-bars
8000/8100-0116 ^{2,4}	16-0	14-0	31.00	33.00	U-bars
8000/8100-0122 ^{2,3}	16-0	14-0	44.00	49.00	U-bars and C-channels
8000/8100-0115 ^{2,4}	16-0	14-0	44.00	49.00	U-bars and C-channels
8000/8100-0123 ^{2,3}	18-0	7-0	30.00	32.00	C-channels
8000/8100-0118 ^{2,4}	18-0	7-0	30.00	32.00	C-channels
8300-0124 ^{1,6}	16-0	8-0	27.00	29.00	U-Bars
8300-0125 ^{1,6}	16-0	8-0	22.00	25.00	U-Bars
8300-0126 ^{1,6}	16-0	8-0	44.00	49.00	U-Bars & Windload Posts
8300-0127 ^{1,6}	9-0	8-0	46.00	52.00	U-Bars
8300-0130 ^{1,6}	18-0	8-0	22.00	25.00	U-Bars
8300-0131 ^{1,6}	18-0	8-0	44.00	49.00	U-Bars & Windload Posts
8300-0132 ^{1,5,6}	9-0	8-0	31.00	36.00	U-Bars
8300-0133 ^{1,5,6}	9-0	8-0	23.00	26.00	U-Bars

Notes:

1. Transverse Load Test per ASTM E 330
2. Transverse Load Test per Miami-Dade County Protocols PA 202
3. Door panel steel is made from 26 gauge steel skin
4. Door panel steel is made from 24 gauge steel skin
5. Tested with windows in top panel.
6. Door panel steel is made from 28 gauge steel skin. These result can also be used for Model Numbers: 8500, 5150, and 5200 if the same Options are used.

SI Units Conversion: 1 in = 25.4 mm, 1 ft = 0.3 m, 1 psf = 48 Pa

**TABLE 2
MODEL 8000/8100
IMPACT RESISTANT DOORS**

Option Code	Size	Facer Steel	Reinforcements
0119	9'-0" x 7'-0"	26 ga.	5 Ubars
0113	9'-0" x 7'-0"	24 ga.	5 Ubars
0120	9'-0" x 7'-0"	26 ga.	7 Ubars
0114	9'-0" x 7'-0"	24 ga.	7 Ubars
0121	16'-2" x 7'-0"	26 ga.	9 Ubars
0116	16'-2" x 7'-0"	24 ga.	9 Ubars
0122	16'-2" x 7'-0"	26 ga.	1 Ubar & 4 C's
0115	16'-2" x 7'-0"	24 ga.	1 Ubar & 4 C's
0123	18'-2" x 7'-0"	26 ga.	4 C-channels
0118	18'-2" x 7'-0"	24 ga.	4 C-channels

**TABLE 3
MODEL 8300/8500/5150/5200
IMPACT RESISTANT DOORS**

Option Code	Size	Facer Steel	Reinforcements
0126	16'-0" x 8'-0"	28 ga.	4 Ubars and 1 Removable Windload Posts
0127	9'-0" x 8'-0"	28 ga.	5 Ubars
0131	18'-0" x 8'-0"	28 ga.	5 Ubars and 2 Removable Windload Posts

6. SUBSTANTIATING DATA

- 6.1 Manufacturer's descriptive literature, specifications, and installation instructions.
- 6.2 Test reports on transverse wind load under ASTM E 330 for WayneMark Series 8000 and 8100 Garage Door, prepared by Hurricane Engineering & Testing, Inc., are as follows:
- Report No. HETI-01-997, April 4, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
 - Report No. HETI-01-996, April 4, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
 - Report No. HETI-01-1029, June 7, 2001, signed by Syed Waqar Ali, Ph.D.
 - Report No. HETI-01-1014, May 10, 2001, signed by Syed Waqar Ali, Ph.D.
- 6.3 Test reports on Large Missile Impact for WayneMark Series 8000 and 8100 Garage Doors, Hurricane Engineering & Testing, Inc., are as follows:
- Report No. HETI-01-993, April 3, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
 - Report No. HETI-01-995, April 4, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
- 6.4 Test reports on transverse wind load under Miami-Dade County Protocol PA-202 for WayneMark Series 8000 and 8100 Garage Door, prepared by Hurricane Engineering & Testing, Inc., are as follows:
- Report No. HETI-01-994, April 2, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
 - Report No. HETI-01-1011, May 9, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
 - Report No. HETI-01-1027, June 5, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
 - Report No. HETI-01-1025, June 4, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
 - Report No. HETI-01-992, April 2, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
- 6.5 Test reports on tensile strength under ASTM E-8 for WayneMark Series 8000 and 8100 Garage Door, prepared by Hurricane Engineering & Testing, Inc., are as follows:
- Report No. HETI-01-T034, April 5, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T036, April 17, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T064, June 30, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T065, June 30, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T061, June 24, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T060, June 24, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T062, June 24, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T063, June 25, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T048, May 30, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T049, May 30, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T050, June 1, 2001, signed by Hector M. Medina, P.E.
- 6.6 Test report on surface burning characteristic under ASTM E 84 for Drew Foam EPS used in WayneMark Series 8100 Garage Door, prepared by RADCO, Report No. RAD-2935, dated November 2001, signed by Yamil Moya and Michael L. Ziemann, P.E.
- 6.7 Test report on surface burning characteristic under ASTM E 84 for Foam Enterprises, Inc., polyurethane foam insulation panel, used in WayneMark Series 8300, 8500, 5150 and 5200 Garage Doors, prepared by Southwest Research Institute, Report No. 01.04913.01.159c, dated February 13, 2002, signed by Anthony L. Saucedo and Alex B. Wenzel.
- 6.8 Test reports on transverse wind load under ASTM E 330 for WayneMark Series 8300 raised panel Garage Door, prepared by Hurricane Engineering & Testing, Inc., are as follows:
- Report No. HETI-01-1080, October 3, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E..

- Report No. HETI-01-1081, October 3, 2001, signed by Syed Waqar Ali, Ph.D.
- Report No. HETI-01-1083, October 4, 2001, signed by Syed Waqar Ali, Ph.D.
- Report No. HETI-01-1084, October 5, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E..
- Report No. HETI-01-1090, November 30, 2001, signed by Syed Waqar Ali, Ph.D.
- Report No. HETI-01-1091, October 30, 2001, signed by Syed Waqar Ali, Ph.D.
- Report No. HETI-01-1092, October 31, 2001, signed by Syed Waqar Ali, Ph.D.
- Report No. HETI-01-1093, November 1, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E..

- 6.9 Test reports on Large Missile Impact for WayneMark Series 8300 raised panel Garage Doors, Hurricane Engineering & Testing, Inc., are as follows:
- Report No. HETI-01-1082, October 3, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
 - Report No. HETI-01-1085, October 5, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
 - Report No. HETI-01-1094, November 1, 2001, signed by Syed Waqar Ali, Ph.D. and Hector M. Medina, P.E.
- 6.10 Test reports on tensile strength under ASTM E-8 for WayneMark Series 8300 Garage Door, prepared by Hurricane Engineering & Testing, Inc., are as follows:
- Report No. HETI-01-T102, November 6, 2001, signed by Hector M. Medina, P.E.
 - Report No. HETI-01-T101, October 24, 2001, signed by Hector M. Medina, P.E.
- 6.11 Test report on surface burning characteristic under ASTM E 84 for Foam Enterprises, Inc., polyurethane foam insulation panel, used in WayneMark Series 8300, 8500, 5150 and 5200 Garage Doors, prepared by Omega Point Laboratories, Report No. 9004-112215, dated September 24, 2002, signed by Guy A. Haby and William E. Fitch, P.E..
- 6.12 Quality Control Manual for Wayne Dalton, dated January 2, 2003, Revision-E, (Document No. 13990-1).

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
Chapter 26	Foam Plastic

International One and Two Family Dwelling Code - 1998 Edition

Section 108	Alternate Materials and Systems
Section 301	Design Criteria

Standard for Hurricane Resistant Residential Construction© SSTD 10-99

Section 101.3	Integrity of Building Envelope
Section 101.4	Alternate Materials and Methods
Section 101.6	Design Concepts

Section 104	Design Criteria
Chapter 6	Windows and Doors
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 22	Steel
Section 2204	Cold-Formed Steel Construction
Chapter 26	Foam Plastic

8. COMMITTEE FINDINGS

The Subcommittee on Evaluation in review of the data submitted finds that, in their opinion, the WayneMark Series 8000, 8100, 8300, 8500, 5150, and 5200 Garage Doors 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*© SSTD10-99, the Florida Building Code, and the *International One and Two Family Dwelling Code* or Supplements thereto.

9. LIMITATIONS

- 9.1 This Legacy Evaluation Report and the installation instructions, when required by the building official, shall be submitted at the time of permit application.
- 9.2 The doors shall be installed in accordance with the installation instructions in this report and the manufacturer's published installation instructions.
- 9.3 The structural elements supporting door track brackets 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 local building official when applying for a permit.
- 9.4 The doors shall not be installed in areas where the transverse wind loads exceed the allowable loads shown in Table 1.
- 9.5 The glazed panel performance of WayneMark Series 8000 and 8100 Garage Doors is outside the scope of this report.
- 9.6 The WayneMark Series 8100 Garage Door can only be used in one and two family dwellings.
- 9.7 The WayneMark Series 8000, 8100, 8300, 8500, 5150 and 5200 Garage Doors have not been evaluated with the ventilation louvers installed.

10. IDENTIFICATION

Each WayneMark Series 8000, 8100, 8300, 8500, 5150, and 5200 Garage Door 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.

11. PERIOD OF ISSUANCE

SEE THE CURRENT EVALUATION REPORT INDEX FOR STATUS OF THIS LEGACY EVALUATION REPORT.

For information on this report contact:

J. David Musselwhite, P.E.

205/599-9800