TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION Effective May 1, 2002
GDR-14 Revised December 1, 2003

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation 3 years after the effective date.*

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

WayneMark Series Model 8300 and 8500 Garage Doors, Impact and Non-impact Resistant
ThermoMark Series Model 5150 and 5200 Garage Doors, Impact and Non-impact Resistant

Manufactured by:

Wayne-Dalton Corporation
3395 Addison Drive
Pensacola, Florida 32514
(850) 474-9890

will be accepted for use in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with this product evaluation. Installation instructions and design drawings, signed by Mark R. Barrow, PE, shall be provided and available on the job site during installation.

PRODUCT DESCRIPTION

The WayneMark Series Model 8300 and 8500 and the ThermoMark Series Model 5150 and 5200 are insulated sectional overhead doors constructed from galvanized steel sections with foamed in place polyurethane insulation.

The WayneMark Series Model 8300 has 1 ½ " thick panels. The doors are available in heights up to 8'-0".

The WayneMark Series Model 8500 has 2" thick panels. The doors are available in heights up to 8'-0".

The ThermoMark Series Model 5150 is identical in construction to the WayneMark Series Model 8300 except that it has heavier bottom brackets. The doors are available in heights up to 16'-0". Doors 14'-2" and wider have double end stiles, hinges, and top brackets.

The ThermoMark Series Model 5200 is identical in construction to the WayneMark Series Model 8300 except that it has 2" thick panels and has heavier bottom brackets. The doors are available in heights up to 16'-0". Doors 14'-2" and wider have double end stiles, hinges, and top brackets.

The door may require a windload post or posts to achieve the design pressure rating specified in this report.

Product Identification: The door has a warranty/warning label applied during manufacturing that includes the manufacturers name and the Series/Model number for the garage door. The door will also have a second label, applied by the installer that includes the manufacturers name and the design pressure rating for the door.

LIMITATIONS

The door panels are constructed of 28 GA steel.

The non-impact resistant doors include glazed panels.

The impact resistant doors do not include glazed panels.

The maximum width of each door section shall not exceed 24".

The maximum door height shall not exceed 16'-0". **Note:** Doors that require the installation of a windload post may not exceed 8' in height.

The doors utilize 20 GA steel U-bars for horizontal reinforcement. The placement and installation of the horizontal reinforcement are shown on the design drawings.

Windload post: Several of the doors will require the installation of a windload post in order to achieve their design pressure rating. Those doors requiring the use of the windload post are noted in this report.

Non-Impact Resistant Doors:

Design drawings: Specified in Table 1 and Table 2
Allowable dimensions: Specified in Table 1
Glazing: Glass is SS ($\frac{3}{32}$ ") annealed monolithic. For 9 foot wide doors, the dimensions of the glass shall not exceed 19.2" x 12.3". For 16 foot wide doors, the dimensions of the glass shall not exceed 16" x 12.3".
Design pressure and height limitations: Table 2
Windload posts: Not required
Impact protection: These doors have not been tested for windborne debris resistance. Doors that contain glazing may not be installed in the Inland I zone without protection from an impact protective system. All doors that are installed in the Seaward zone will need to be protected with an impact protective system.

Table 1
Non-Impact Resistant Doors
Allowable Door Dimensions

Series Model	Design Drawing (Windload Specification)	Maximum Door Width	Maximum Door Height	Windload Posts Required
8300/8500	0132 Rev: P4; 3 pages	9'-0"	8'-0"	No
5150/5200	0132 Rev: P4; 3 pages	9'-0"	16'-0"	No
8300/8500	0124 Rev: P4; 4 pages	16'-0"	8'-0"	No
5150/5200	0124 Rev: P4; 4 pages	16'-0"	16'-0"	No

Table 2
Non-Impact Resistant Doors
Design Pressure and Height Limitations

Windload Specification	Design Pressure (psf)
0132	+31, -36
0124	+27; -29

Impact Resistant Doors:

Design drawings: Specified in Table 3 and Table 4
Allowable dimensions: Specified in Table 3
Glazing: Not permitted
Design pressure and height limitations: Table 4
Windload posts: May be required. See Table 3
Impact protection: These doors satisfy the Texas Department of Insurance criteria for windborne debris resistance in both the Inland I zone and the Seaward zone. The door assemblies passed Missile Level C specified in ASTM E 1996-99. These doors would not need to be protected with an impact protective system if they are installed in areas where windborne debris protection is required.

Table 3
Impact Resistant Doors
Allowable Door Dimensions, Windload Posts

Series Model	Design Drawing (Windload Specification)	Maximum Door Width	Maximum Door Height	Windload Posts Required
8300/8500	0127 Rev: P3; 2 pages	9'-0"	8'-0"	No
5150/5200	0127 Rev: P3; 2 pages	9'-0"	16'-0"	No
8300/8500	0126 Rev: P4; 3 pages	16'-0"	8'-0"	Yes [1]
5150/5200	0126 Rev: P4; 3 pages	16'-0"	8'-0"	Yes [1]
8300/8500	0131 Rev: P3; 3 pages	18'-0"	8'-0"	Yes [1]
5150/5200	0131 Rev: P3; 3 pages	18'-0"	8'-0"	Yes [1]

Note: [1] Installation of windload posts are specified on the design drawings and in the Windload Post Installation Manual published by Wayne-Dalton Corp.

Table 4
Impact Resistant Doors
Design Pressure and Height Limitations

Windload Specification	Design Pressure (psf)
0127	+46, -52
0126	+33; -37.5
0131	+40; -44.5

INSTALLATION INSTRUCTIONS

Design Drawings: The doors shall be installed as specified on design drawings. The design drawings shall be provided with the door. In the bottom, right corner of each page, there will be a box that contains the following: (1) The Series Model number (8300, 8500, 5150, and 5200); (2) The design pressure rating; and (3) The Model Option Code. Each page shall be signed by Mark R. Barrow, PE and dated September 25, 2003.

Windload Post Installation Instructions: For those doors that require the installation of windload posts, the design drawings will specify the location of the posts and specific installation instructions. It is required that the Windload Post Installation Instructions Manual, published by Wayne-Dalton Corp. also be provided with the door to provide complete installation instructions.

Attachment of Doors to Walls:

Non-impact Resistant Doors (Use one of the following two methods):

Attachment of Door Components to Wood-Framed Walls Using a Wood Jamb: Brackets for the vertical tracks and for the flag angles of the door shall be attached directly to wood jambs with the fasteners specified on the design drawings. The wood jambs shall be minimum 2x6 SYP lumber. The attachment of the 2x6 wood jambs to the wood-framed walls shall be as specified in Tables 5, 6, and 7.

Direct Attachment of Door Components to Wood-Framed Walls: Brackets for the vertical tracks and for the flag angles of the door shall be attached directly to the wall framing with the fasteners specified on the design drawings. The attachment of the vertical tracks shall be as shown in Figures 1 and 2.

Attachment of Door Components to Concrete/Masonry Block Walls Using a Wood Jamb: Brackets for the vertical tracks and for the flag angles of the door shall be attached directly to wood jambs with the fasteners specified on the design drawings. The wood jambs shall be minimum 2x6 SYP lumber. The attachment of the 2x6 wood jambs to the concrete/masonry block wall shall be as specified in Tables 8 and 9.

Impact Resistant Doors (Use one of the following four methods):

Direct Attachment of Door Components to Concrete/Masonry Block Walls: Brackets for the vertical tracks and for the flag angles of the door shall be attached directly to the concrete/masonry block wall with the fasteners specified on the design drawings.

Attachment of Door Components to Wood-Framed Walls Using a Wood Jamb: Brackets for the vertical tracks and for the flag angles of the door shall be attached directly to wood jambs with the fasteners specified on the design drawings. The wood jambs shall be minimum 2x6 SYP lumber. The attachment of the 2x6 wood jambs to the wood-framed walls shall be as specified in Tables 5, 6, and 7.

Direct Attachment of Door Components to Wood-Framed Walls: Brackets for the vertical tracks and for the flag angles of the door shall be attached directly to the wall framing with the fasteners specified on the design drawings. The attachment of the vertical tracks shall be as shown in Figures 1 and 2.

Attachment of Door Components to Concrete/Masonry Block Walls Using a Wood Jamb: Brackets for the vertical tracks and for the flag angles of the door shall be attached directly to wood jambs with the fasteners specified on the design drawings. The wood jambs shall be minimum 2x6 SYP lumber. The attachment of the 2x6 wood jambs to the concrete/masonry block wall shall be as specified in Tables 8 and 9.

Impact Resistant Doors (Windload Posts):

Attachment of Windload Posts to Doors, Concrete, and Wall Framing: Attachment of the windload posts to the doors, concrete, and wall framing is specified on the design drawings and in the Windload Post Installation Instructions manual, published by Wayne-Dalton Corp.

Table 5
Attachment of 2x6 Wood Jambs to Southern Yellow Pine Wood Wall Framing
(Fastener: $\frac{3}{8}$" Diameter Lag Screws)
(Maximum Fastener Spacing Per Jamb (in inches))

	Door Model Option Code				
Door Height	0132	0124	0127	0126	0131
6'-6" to 8'	51	40	40	36	31
9' to 16"	51	40	40	Not permitted	Not permitted

1. Minimum thread embedment depth into wood framing of 2 $\frac{1}{2}$".
2. Provide the quantity of lag screws required to maintain maximum spacing with a minimum of three (3) lag screws per jamb.
3. A lag screw shall be located a maximum distance of 6" from each end of each jamb.
4. Minimum distance from any edge of wood (jamb or wall framing) shall be 1 $\frac{1}{2}$".

Table 6
Attachment of 2x6 Wood Jamb to Douglas Fir-Larch Wood Wall Framing
(Fastener: $\frac{3}{8}$" Diameter Lag Screws)
(Maximum Fastener Spacing Per Jamb (in inches))

	Door Model Option Code				
Door Height	0132	0124	0127	0126	0131
6'-6" to 8'	47	38	38	33	28
9' to 16'	47	38	38	Not permitted	Not permitted

1. Minimum thread embedment depth into wood framing of 2 $\frac{1}{2}$".
2. Provide the quantity of lag screws required to maintain maximum spacing with a minimum of three (3) lag screws per jamb.
3. A lag screw shall be located a maximum distance of 6" from each end of each jamb.
4. Minimum distance from any edge of wood (jamb or wall framing) shall be 1 $\frac{1}{2}$".

Table 7
Attachment of 2x6 Wood Jamb to Spruce-Pine-Fir Wood Wall Framing
(Fastener: $\frac{3}{8}$" Diameter Lag Screws)
(Maximum Fastener Spacing Per Jamb (in inches))

	Door Model Option Code				
Door Height	0132	0124	0127	0126	0131
6'-6" to 8'	48	38	38	32	25
9' to 16'	48	38	38	Not permitted	Not permitted

1. Minimum thread embedment depth into wood framing of 2 $\frac{1}{2}$".
2. Provide the quantity of lag screws required to maintain maximum spacing with a minimum of three (3) lag screws per jamb.
3. A lag screw shall be located a maximum distance of 6" from each end of each jamb.
4. Minimum distance from any edge of wood (jamb or wall framing) shall be 1 $\frac{1}{2}$".

Table 8
Attachment of 2x6 Wood Jamb to Concrete/Masonry Block Wall
(Fastener: $\frac{3}{8}$" Diameter Simpson Strong-Tie Wedge-All)
(Maximum Fastener Spacing Per Jamb (in inches))

	Door Model Option Code				
Door Height	0132	0124	0127	0126	0131
6'-6" to 8'	47	30	30	24	18
9' to 16'	47	30	30	Not permitted	Not permitted

1. Based on minimum 2000 psi concrete.
2. Minimum embedment depth of 2 $\frac{5}{8}$" into concrete.
3. Minimum distance from edge of concrete is 3"
4. Based on minimum 2000 psi grout-filled CMU.
5. Minimum embedment depth of 3" into grout-filled CMU.
6. Minimum distance from edge and end of grout-filled CMU is 4".
7. CMU shall conform to ASTM C90 and the grout shall conform to ASTM C476.
8. Provide the quantity of wedge anchors required to maintain maximum spacing with a minimum of three (3) wedge anchors per jamb.
9. A wedge anchor shall be located a maximum distance of 6" from each end of each jamb.
10. Minimum distance from any edge of wood jamb shall be 1 $\frac{1}{2}$".

Table 9
Attachment of 2x6 Wood Jamb to Concrete/Masonry Block Wall
(Fastener: $\frac{3}{8}$" Diameter L Bolt)
(Maximum Fastener Spacing Per Jamb (in inches))

	Door Model Option Code				
Door Height	0132	0124	0127	0126	0131
6'-6" to 8'	47	36	36	28	22
9' to 16'	47	36	36	Not permitted	Not permitted

1. Based on minimum 2000 psi concrete.
2. Minimum embedment depth of 3" into concrete.
3. Minimum distance from edge of concrete is 3"
4. Provide the quantity of anchor bolts required to maintain maximum spacing with a minimum of three (3) anchor bolts per jamb.
5. An anchor bolt shall be located a maximum distance of 6" from each end of each jamb.
6. Minimum distance from any edge of wood jamb shall be 1 $\frac{1}{2}$".

Note: The manufacturer's installation instructions and the appropriate Model Option Code design drawings, signed by Mark R. Barrow, PE, shall be available on the job site during installation. If the door requires windload posts, then the Windload Post Installation Instructions Manual, published by Wayne-Dalton Corp. shall be available at the job site. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC) and the International Building Code (IBC).

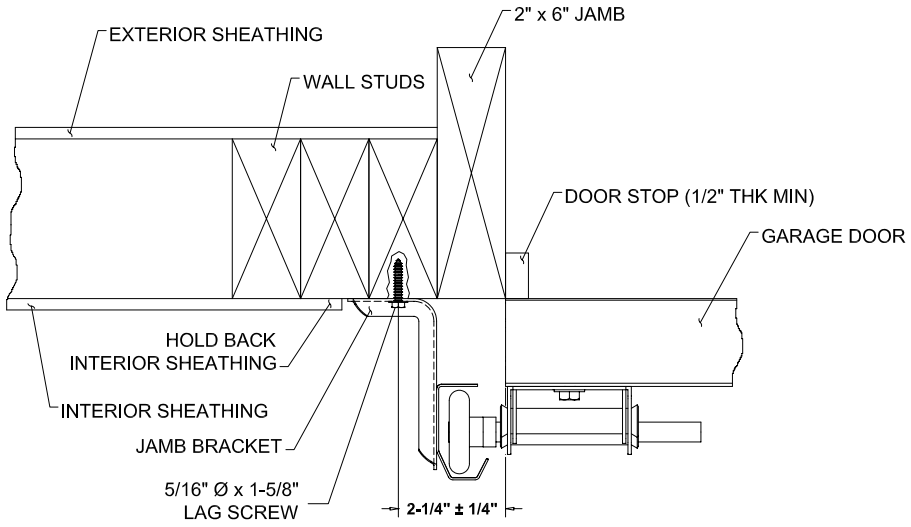

Figure 1: Attachment of Garage Door Brackets Directly to Wood Wall Framing (Option 1)

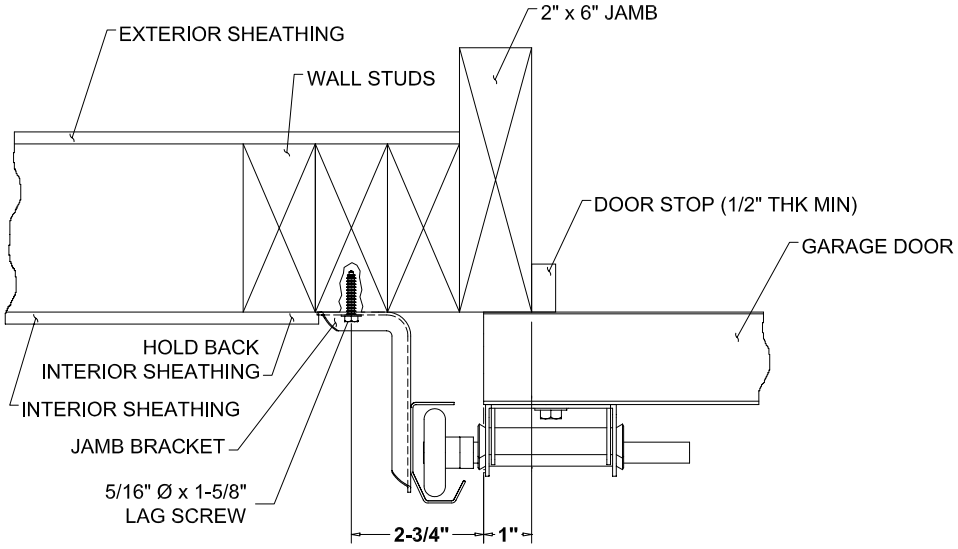

Figure 2: Attachment of Garage Door Brackets Directly to Wood Wall Framing (Option 2)