

Scott A. Brown, Professional Engineer

Evaluation reports are the opinion of the evaluation entity, based on the findings, and in no way constitute or imply approval by a local building authority. I, Scott A. Brown P.E. have reviewed the data submitted by Raynor Garage Doors and in my opinion, the product, material, system, or method of construction specifically identified in this report conforms to the requirements of the 8th Edition (2023) of the Florida Building Code, subject to the limitations in this report.

Report No.: 34-G

Submitted: 04/15/16

Revised: 6/1/16

Revised: 9/25/17

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Revised: 9/22/23

Revised: 2/14/24

Revised: 4/2/24

Category: Exterior Doors

Submitted By:

Raynor Garage Doors
1101 East River Road
Dixon, IL 61021

Evaluation Entity:

Scott Brown P.E.
809 East 2nd St.
Dixon IL, 61021

Evaluation Test Standards:

ANSI/DASMA 108-2017

ANSI/DASMA 115-2017

1. Product Trade Name

1.1 Sandwich Doors

1.2.1 Raynor EnergyCore EC200

1.2.2 Raynor EnergyCore EC224

2. Scope of Evaluation

2.1 Structural: Transverse wind and impact/cyclic loads.

3. Uses

3.1 Raynor garage doors are used as garage doors with specified allowable transverse wind pressures.

4. Models

4.1 Raynor EnergyCore (EC200): Sections shall be sandwich-style, 2" inch thick insulated door panels with tongue-and-groove section joint made from minimum 0.015-inch-thick galvanized steel roll-formed exterior skins and .015-inch-thick interior skins with a texture. The doors are insulated with expanded polystyrene foam that is bonded to the interior and exterior steel skins. Maximum door height is 18'-0".

4.2 Raynor EnergyCore (EC224): Same as EC200 except for the exterior skin is 0.022-inch-thick galvanized roll-formed steel.

5. Windows or Window Sections

5.1 Aluminum Full View: Section shall be rail and stile construction using extruded aluminum profiles.

5.1.1 Impact Rated Glass: Glass shall be impact resistant laminate.

6. Reinforcing

6.1 General: Raynor garage doors sections listed in this report shall be reinforced horizontally with roll-formed galvanized steel U-bars and/or Box Struts.

6.1.1 U-bar: Horizontal reinforcing U-shaped sections, 2-5/8" deep x 2" wide x 18 ga. (.049 minimum) or 20 ga. (.035 minimum) galvanized steel, 80 KSI minimum tensile.

6.1.2 Box Strut: Horizontal reinforcing U-shaped sections, 4-1/2" deep x 5.04" wide x 18 ga. (.049 minimum) or 20 ga. (.035 minimum) galvanized steel, 80 KSI minimum tensile.

7. Installation

7.1 General: Raynor garage doors are to be 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 information within this report governs if there are any conflicts between the manufacturer's instructions and this report.

8. Allowable Wind Loads:

The doors shown in Table 1 were tested to ANSI/DASMA 108 for static air pressure doors shown in Table 2 were tested to ANSI/DASMA 108 for static air pressure and ANSI/DASMA 115 for impact and cyclic loading.

Table 1

Door Model(s)	Tested Door Width	Center Hinges per Sect. (min)	Drawing Number(s)	Design Loads (psf)		Large Missile Impact Resistant	Test Report Number	Test Date
Raynor EnergyCore	9' - 2"	1	P-2607-A	+10.8	-12.2	No	2172	1/30/24
	9' - 2"	1	P-2608-A	+27.7	-32.8	No	2173	2/1/24
	12' - 2"	2		+17.5	-19.8		2169	1/5/24
	16' - 2"	3		+10.4	-11.6		2176	2/8/24
	9' - 2"	1	P-2609-A	+39.3	-44.4	No	2174	2/2/24
	12' - 2"	2		+20.1	-22.8		2170	1/26/24
	16' - 2"	3		+12.9	-17.1		2177	2/9/24
	9' - 2"	1	P-2610-A	+51.1	-59.3	No	2175	2/6/24
	12' - 2"	2		+41.1	-49.8		2171	1/29/24
	16' - 2"	3		+27.8	-33.1		2178	2/13/24
	20' - 2"	4		+16.8	-18.7		2179	2/15/24
		20' - 2"	4	P-2611-A	+26.3	-29.3	No	2181

Table 2

Door Model(s)	Tested Door Width	Center Hinges per Sect. (min)	Drawing Number(s)	Design Loads (psf)		Large Missile Impact Resistant	Test Report Number	Test Date
Raynor EnergyCore	9' - 2"	1	P-3408-A	+39.3	-44.4	Yes	2174	2/2/24
	12' - 2"	2		+20.1	-22.8		2182	2/28/24
	9' - 2"	1	P-3409-A	+51.1	-59.3	Yes	2170	1/26/24
	12' - 2"	2		+41.1	-49.8		2184	3/7/24
	16' - 2"	3		+27.8	-33.1		2175	2/6/24
	20' - 2"	4		+16.8	-18.7		2183	3/4/24
	20' - 2"	4					2171	1/29/24
					2185	3/8/24		
					2178	2/13/24		
					2189	4/10/24		
				2179	2/15/24			
				2188	4/3/24			
			P-3410-A	+26.3	-29.3	Yes	2181	2/26/24
						2190	4/15/24	

9. Substantiating Data

9.1 Test Reports: Doors shown in Table 1 were tested at Raynor Garage Doors test lab in Dixon Illinois, which is accredited by ANSI National Accreditation Board (ANAB) at the time of testing. Scope of accreditation can be found at <http://www.anab.org>. Testing was witnessed by an independent third-party Florida Registered Professional Engineer, Scott A. Brown P.E. Test reports were prepared by Raynor Garage Doors and signed and sealed by Scott A. Brown P.E. See Tables 1 and 2 for report numbers and test dates.

9.2 Engineering Drawings: Drawings were prepared by Raynor Garage Doors under the direction of Scott A. Brown P.E. and then reviewed, signed, sealed and dated by Scott A. Brown P.E. See Table 1 and Table 2 for drawing numbers.

9.3 Calculations: Calculations on jamb attachment, the results are shown on drawings listed in this report.

10. Limitations

10.1 The doors shall be installed in accordance with the manufacturer's published installation instructions in this report and the manufacturer's published installation instructions, engineering drawings and this report.

10.2 The structural elements supporting the door track brackets shall be designed by a registered professional engineer for the wind loads shown on the drawings listed in this evaluation.

10.3 The doors shall not be installed in areas where the transverse wind loads exceed the allowable loads shown in Tables 1 and 2.

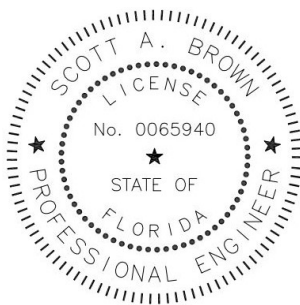
10.4 Doors listed in this report do not address the requirements of the High Velocity Hurricane Zone (HVHZ).

11. Identification

11.1 Each Raynor Garage Door covered by this report shall be labeled with the manufacturer's name, drawing number and Florida approval number for field identification.

12. Further Information

12.1 Scott A. Brown F.P.E. #65940 does not have, nor intend to acquire a financial interest in Raynor Mfg. or any other company manufacturing or distributing products for which this report is being issued; Scott A. Brown F.P.E. #65940 is not controlled by Raynor Mfg. or any other company manufacturing or distributing any portion of the product being tested, evaluated or approved by this report.



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Structural Adequacy for Wind Load

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