

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.: 32-G

Submitted: 10/05/2015

Revised: 9/21/16

Revised: 9/25/17

Revised: 01/28/2021

Revised: 07/27/2022

Revised: 9/22/23

Revised: 10/27/23

Category: Exterior Doors

Submitted By:

Raynor Garage Doors
1101 East River Road
Dixon, IL 61021

Evaluation Entity:

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

Evaluation Test Standards:

ANSI/DASMA 108-12

ANSI/DASMA 108-17

ANSI/DASMA 115-12

ANSI/DASMA 115-17

TAS 201-94

TAS 202-94

TAS 203-94

1. Product Trade Name

1.1 Rolling Steel Doors

1.1.1 DuraCoil – models ‘FF’ or ‘IF’ and FireCoil – model ‘UF’

2. Scope of Evaluation

2.1 Structural: Transverse Wind Loads

3. Uses

3.1 Raynor rolling steel doors are used as a commercial or industrial door with specified allowable transverse wind pressures.

4. Description of the Product

4.1 Curtain: Raynor rolling steel doors are constructed of interlocking slats roll-formed from commercial quality hot-dipped galvanized (G-90) steel or stainless steel. Verified minimum yield stress of 40 KSI.

4.1.1 Slats: Slats to be flat slat or insulated flat slats. 24 ga. (.023" min.), optional 22 ga. (.030" min.), 20 ga. (.036" min.), and 18 ga. (.047" min.). Back covers for insulated flat slats to be 24 ga. (.023" min.).

4.1.2 Bottom Bar: Bottom of curtain to be reinforced with tubular or (2) angles of steel/stainless steel.

4.2 Guides: Constructed of either rolled steel angle, minimum .180" thick, or structural steel angles, minimum 3/16" thick.

4.3 Headplates: Constructed of steel plates, minimum 3/16" thick, bolted to the guides for mounting curtain barrel assembly. Drive side headplate is fitted with a sealed ball bearing.

4.4 Barrel: Structural steel pipe, minimum 4 ½" O.D. x .120 wall thickness.

4.4.1 Spring Counterbalance: Curtain is counterbalanced by means of oil tempered, helical torsion springs. Grease-packed and mounted on a single continuous steel torsion shaft.

4.5 Hood: Hood is 24 ga. (.022" min.) commercial quality hot-dipped galvanized steel or stainless steel with rolled edges for rigidity.

5. Installation

5.1 General: Raynor rolling steel 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.

5.2 Allowable Transverse Wind Loads: The design wind load for the rolling steel door shall be determined in accordance with the Florida Building Code and shall not exceed the allowable transverse wind loads shown in charts shown on the drawings.

6. Substantiating Data

6.1 Documentation for DuraCoil and FireCoil.

6.1.1 Test Reports: Testing per ANSI/DASMA 108 and ANSI/DASMA 115 was done at Raynor Garage Doors test lab in Dixon, Illinois which was accredited by ANSI National Accreditation Board (ANAB) at the time of testing, scope of accreditation can be found at www.anab.org. Testing was witnessed by an independent third party Florida Registered Professional Engineer, Richard A. Baumann P.E. and/or Scott A Brown P.E. Test reports were prepared by the test lab and signed and sealed by the witnessing Florida PE. See Table 1 for test report numbers and test dates.

Additional door sizes and pressures were derived from these test results using comparative rational analysis. The results of this analysis are listed on the drawing P-2184 revision E.

Testing per TAS 201, 202 & 203 was done at Architectural Testing, Inc. in Schofield, Wisconsin. Test reports were prepared by the test lab and signed and sealed by the witnessing Florida P.E. See table 2 for test report number and test dates.

6.1.2 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.

Table 1									
Test #	Test Date	Test Std.	Slat Type	Slat Gauge	Design Load (psf)	Test Load (psf)	Impact Tested	Door Width	Drawing Number
1656	3/23/2015	DASMA 108	FF	20	+55 / -55	+82.5 / -82.5	Yes	20'	P-2184-E
1657	4/28/2015	DASMA 115							
1658	5/5/2015	DASMA 108	FF	22	+45 / -45	+67.5 / -67.5	Yes	20'	
1659	5/7/2015	DASMA 115							
1660	5/22/2015	DASMA 108	IF	22	+55 / -55	+82.5 / -82.5	Yes	20'	
1661	5/27/2015	DASMA 115							
1662	6/10/2015	DASMA 108	IF	24	+45 / -45	+67.5 / -67.5	Yes	20'	
1663	6/12/2015	DASMA 115							
1664	7/27/2015	DASMA 108	FF	22	+50 / -50	+75 / -75	Yes	16'	
1665	7/29/2015	DASMA 115							
1669	8/18/2015	DASMA 108	FF	20	+60 / -60	+90 / -90	Yes	16'	
1670	8/20/2015	DASMA 115							
1672	9/11/2015	DASMA 108	IF	24	+60 / -60	+90 / -90	Yes	16'	
1673	9/16/2015	DASMA 115							
1674	9/24/2015	DASMA 108	FF	20	+30 / -30	+45 / -45	Yes	16'	
1675	9/24/2015	DASMA 115							
1676	10/1/2015	DASMA 108	FF	22	+16.7 / -16.7	+25 / -25	Yes	16'	
1677	10/1/2015	DASMA 115							

Table 2									
Test #	Test Date	Test Std.	Slat Type	Slat Gauge	Design Load (psf)	Test Load (psf)	Impact Tested	Door Width	Drawing Number
D4244.01-602-18	2/4/2014	TAS 202	FF	18	+65 / -65	+97.5 / -97.5	Yes	8'	P-1286-F
		TAS 201 & 203							

7. Additional Data

7.1 Forced Entry: The doors shown in Table 2 meet forced entry requirements. Test data is included in test report D4244.01-602-18, prepared 03/17/2014 by Architectural Testing, Inc.

7.2 Tensile Test: The doors shown in Table 2 were tensile tested per ASTM E8. Test data is included in test report D4244.01-602-18, prepared 03/17/2014 by Architectural Testing, Inc.

7.3 Self Ignition Temperature: The doors shown in Table 2 were tested for self-ignition temperature per ASTM D1929. Testing and report were prepared by Underwriters Laboratory Inc, under report #R25153, dated 03/07/2007.

7.4 Flame Spread: The doors shown in Table 2 were tested for flame spread and smoke development per ASTM E84. Testing was performed by Atlas Roofing Corporation, dated 04/22/2008

8. Limitations

8.1 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.

8.2 The structural elements supporting door guides shall be designed by others for the wind loads shown on the drawings.

8.3 The doors shall not be installed in areas where the transverse wind loads exceed the allowable loads shown on the drawings.

8.4 Doors listed in this report are impact tested up to and including 20 feet wide and may be used in areas that require impact testing. Doors over 20 feet wide may not be used in areas that require impact testing as described in the Florida Building Code.

8.5 Fire performance of the doors is outside the scope of this Evaluation Report.

8.6 Doors listed on table 2 address the requirements of the High Velocity Hurricane Zone (HVHZ). Doors listed on table 1 do not address the requirements of the High Velocity Hurricane Zone (HVHZ).

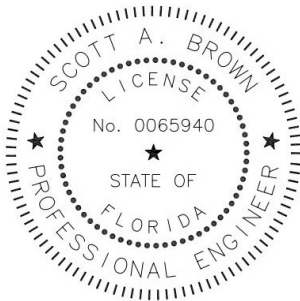
9. Identification

9.1 Each Raynor Rolling Steel Door covered by this report shall be labeled with the manufacturer's name and/or trademark and the number of this report for field identification.

10. Further Information

10.1 For more information on this report contact Scott A. Brown P.E.
815/288-2261.

10.2 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.



Scott A. Brown, P.E. Lic. No. 65940
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FBPE CA Lic. No. 35415
Structural Adequacy for Wind Load

A handwritten signature in black ink that reads "Scott Brown".

Digitally signed by Scott A Brown
Date: 2023.12.26 08:36:20-06'00'

Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies.