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November 26, 2024

Re: Evaluation Report for Models 190/490/160/591/592/593/594/596/599/5740/5760/7560
FL# 32170

SUBMITTED BY:

Overhead Door Corporation
3395 Addison Drive
Pensacola, FL 32514

One Door Drive
P.O. Box 67
Mt. Hope, OH 44660

1. PRODUCT NAME

Models 160/190/490/591/592/593/594/599/5740/5760/7560

2. SCOPE OF EVALUATION

Structural Transverse Wind Loads and Large Missile Impact and Cyclic Wind Pressure Resistance. Since every door size cannot be tested, engineering analysis using a comparative analysis, as permitted per the Florida Product approval 61G20-3, were used to analyze the doors and make the wind load designs.

3. USES

Models 160/190/490/591/592/593/594/599/5740/5760/7560 doors are used for residential and commercial applications with specified allowable design pressures.

4. DESCRIPTION

General

The Models 160/190/490/591/592/593/594/596/599/5740/5760/7560 are insulated sectional overhead doors constructed from galvanized steel sections with foamed in place polyurethane insulation.

The Models 190, 593, 5740 have 1-3/8" thick panels. The doors are available in heights up to 20'-0".

The Models 591 has 1-5/8" thick panels. The doors are available in heights up to 32'-0".

The Models 490, 592, 596, 599, and 5760 have 2" thick panels. The doors are available in heights up to 32'-0".

The Models 160 and 7560 have 1-3/8" thick panels with a decorative overlay. The doors are available in heights up to 16'-0".

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Door Tracks

All door assemblies listed in this report have both vertical and horizontal tracks from a minimum 16 gage, 33 ksi steel and finished with an ASTM A525 G-40 galvanized coating. The vertical tracks are attached to the supporting structure with jamb brackets as specified on the most recent manufacturer's installation instructions/drawings.

Glazed Sections

Table 1: Wind load specification drawings listed in Table 1 page 3 of this report allow for glazing to be installed in the top or intermediate sections for the garage door. The glazed openings that meet the requirements for impact resistance have glazing that is made of ¼" polycarbonate constructed per wind load specification drawings or an equivalent product approved for use in Florida. The drawings that are not indicated for use in wind-borne debris regions with the glazing option are available with a minimum of 0.125-inch thick standard DSB glass windows. This glazing is not impact resistant and does not meet the requirements for windborne debris regions. Refer to the most recent manufacturer's installation instructions and wind load specification drawings for glass size limitations.

Table 3: Wind load specification drawings listed in Table 3 page 5 of this report allow for glazing to be installed in any section, in any combination, including an all-glazed option. Additionally, glazing may be partially or completely omitted from any section. The glazed openings that meet the requirements for impact resistance have glazing that is made of ¼" polycarbonate constructed per wind load specification drawings or an equivalent product approved for use in Florida. The wind load specification drawings that are not indicated for use in wind-borne debris regions with the glazing option are available with a minimum of 0.125-inch thick standard DSB glass windows. This glazing is not impact resistant and does not meet the requirements for windborne debris regions. Refer to the most recent manufacturer's installation instructions and wind load specification drawings for glass size limitations.

The wind load specification drawings in both Tables 1 and 3 that are not indicated for use in wind-borne debris regions but have glazing as an option are available with a minimum of 0.125-inch thick standard DSB annealed glass windows that are installed in frames. The glazing is not impact resistant and does not meet the requirements for windborne debris regions. Refer to the most recent manufacturer's installation instructions and wind load specification drawings for glass size limitations.

Wind Load Bracing

All wind load specification drawings listed in Table 1 or Table 3 of this report are braced on the inside of the doors with three inch or four-inch horizontal spanning U-bars. Each U-bar is made of either 16-gage, 18-gage, or 20-gage ASTM A653 steel with a minimum yield strength of 80 ksi and are finished with an ASTM A525 minimum G-40 galvanized coating. The gage and quantity of U-bar braces varies depending on the amount of windload resistance required and the height of the door.

Jamb Attachment

Method of securing the door to the mounting surface is detailed in the Jamb Connection Supplement, P/N 409783.

5. INSTALLATION

All drawings listed in this report are to be installed in accordance with the most recent manufacturer's published installation instructions/drawings and this report.

The most recent manufacturer's installation instructions/drawings shall be strictly adhered to and a copy of these instructions/drawings shall be available at all times on the job site during installation.

6. ALLOWABLE TRANSVERSE WIND LOADS

Design wind load pressures for garage doors shall be determined in accordance with Florida Building Code and shall not exceed the allowable transverse wind loads shown in the following table:

Table 1: Models 160/190/490/591/592/593/594/596/599/5740/5760/7560
Allowable Transverse Wind Loads and Impact Rating
**Glazing Option only Available in One Intermediate or Top Section*

Windload Specification Option Code	Option Code	Maximum Size		Positive Design PSF	Negative Design PSF	Reinforcement	Glazing Available (Yes/No)
		Width	Height				
411702	2200	9'-2"	24'-0"	12.80	14.80	3", 20 gage U-bars	Yes
411703	2201	9'-2"	24'-0"	19.10	20.60	3", 20 gage U-bars	Yes
411704	2202	9'-2"	24'-0"	22.90	26.30	3", 20 gage U-bars	Yes
411705 ²	2203	9'-2"	24'-0"	26.90	30.80	3", 20 gage U-bars	Yes
412858 ²	2208	9'-2"	24'-0"	26.90	30.80	3", 20 gage U-bars	Yes
411706 ²	2204	9'-2"	24'-0"	35.70	41.00	3", 20 gage U-bars	Yes
411707 ²	2205	9'-2"	24'-0"	41.00	46.30	3", 20 gage U-bars	Yes
412859 ²	2209	9'-2"	24'-0"	41.00	46.30	3", 20 gage U-bars	Yes
411708 ²	2206	9'-2"	24'-0"	46.00	52.00	3", 20 gage U-bars	Yes
411709 ²	2207	9'-2"	24'-0"	64.00	72.00	3", 18 gage U-bars	Yes
411710	2210	12'-2"	24'-0"	16.50	18.40	3", 20 gage U-bars	Yes
411711	2211	12'-2"	24'-0"	19.30	21.60	3", 20 gage U-bars	Yes
411712 ²	2212	12'-2"	24'-0"	22.40	25.10	3", 20 gage U-bars	Yes
411713 ²	2213	12'-2"	24'-0"	25.70	28.80	3", 20 gage U-bars	Yes

411714 ²	2214	12'2"	24'-0"	33.10	37.00	3", 18 gage U-bars	Yes
412860 ²	2215	12'2"	24'-0"	33.10	37.00	3", 18 gage U-bars, 4" 18 gage U-Bars	Yes
412861 ²	2216	12'2"	24'-0"	41.30	46.70	3", 18 gage U-bars, 4" 18 gage U-Bars	Yes
411715	2240	16'-2"	24'-0"	12.40	13.80	3", 20 gage U-bars	Yes
411716	2241	16'-2"	24'-0"	23.00	25.00	3", 18 gage U-bars	Yes
412862	2245	16'-2"	24'-0"	23.00	25.00	3", 18 gage U-bars	Yes
412863 ²	2246	16'-2"	24'-0"	26.90	30.80	3", 18 gage U-bars, 4" 18 gage U-Bars	Yes
411717 ²	2242	16'-2"	24'-0"	30.00	33.50	3", 18 gage U-bars	Yes
412864 ²	2247	16'-2"	24'-0"	30.00	33.50	3", 18 gage U-bars, 4" 18 gage U-Bars	Yes
412865 ²	2248	16'-2"	24'-0"	32.60	36.90	3", 18 gage U-bars, 4" 18 gage U-Bars	Yes
411718 ²	2243	16'-2"	24'-0"	34.40	38.30	3", 18 gage U-bars	Yes
412866 ²	2249	16'-2"	24'-0"	41.30	46.70	3", 20 gage U-bars, 4" 16 gage U-Bars	Yes
411719	2250	18'-2"	24'-0"	12.40	13.80	3", 18 gage U-bars	Yes
411720 ²	2251	18'-2"	24'-0"	23.00	25.00	3", 18 gage U-bars	Yes
412867 ²	2258	18'-2"	24'-0"	23.00	25.00	3", 18 gage U-bars, 4" 18 gage U-Bars	Yes
412868 ²	2255	18'-2"	24'-0"	26.90	30.80	3", 18 gage U-bars, 4" 18 gage U-Bars	Yes
411721 ²	2254	18'-2"	24'-0"	30.00	33.50	3", 18 gage U-bars	No
412869 ²	2256	18'-2"	24'-0"	32.60	36.90	3", 18 gage U-bar, 4" 16 gage U-Bars	Yes
412870 ²	2257	18'-2"	24'-0"	41.30	46.70	3", 18 gage U-bar, 4" 16 gage U-Bars	Yes
411722	2260	22'-2"	24'-0"	15.45	16.79	3", 18 gage U-bars	Yes
411723	2261	22'-2"	24'-0"	20.15	22.50	3", 18 gage U-bars	Yes

Note:² The option code assemblies indicated in Table 1 have been tested for impact resistance and therefore may be used with optional glazing in the wind-borne debris region if glazing is allowed.

7. SUBSTANTIATING DATA

1. Test reports for Models 160/190/490/591/592/593/594/596/599/5740/5760/7560:
 - a. AETR-00036 conducted internally by Wayne Dalton, a division of Overhead Door Corporation, Mount Hope, OH. This test verified equivalency of the single section strength of Model 190 to the equivalent Model 5745 that is currently licensed by FBC (FL #16798).
 - i. The Model 5745 is a 1-5/16" thick steel door with foamed-in-place polyurethane foam, 29 gauge interior steel, 27 gauge exterior steel, minimum 20 gauge steel endcaps, and Tongue and Groove section joints. The Model 5745 is equivalent to the Wayne-Dalton Model 8300 door.
 - ii. The Model 190 is a 1-3/8" thick steel door with foamed-in-place polyurethane foam, 29 gauge interior steel, 29 gauge exterior steel, minimum 20 gauge endcaps, and Shiplap section joints.
 - iii. Testing per AETR-00036 showed that the beam strength of a single section Model 5745 reinforced with a 3" x 18 gauge ubar, and a single section Model 190 reinforced with a 3" x 18 gauge ubar, each had a maximum load to failure of 1172.6 lbs. This proves equivalency of beam strength of single sections between the model 5745 and 190.

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- b. Test reports for complete doors, Model 190: 042420A, 042820B, 042820C , 050620A , 050 720A, 051220A, 051320A, AETR-00697, AETR-00706, AETR-00477, AETR-00677, AETR-00491, and AETR-00696 tested in accordance with ANSI/DAS MA 108-2017 for transverse wind load and ANSI/DASMA 115-2017 for large missile impact resistance conducted by Wayne Dalton, a Division of Overhead Door Corporation, 3395 Addison Dr Pensacola, FL. These tests represented a sample size of the submitted models to demonstrate the performance based on the results from the above engineering test (AETR-00036).

Table 2: Model 190 Test Reports and Comparable Model 5745 Test Reports

Windload Specification Drawing	Option Code	Door Width	Model 190 Static Test Reports	Model 190 Impact/Cyclic Test Reports	Model 5745 Static Test Reports	Model 5745 Impact/Cyclic Test Reports	Positive Design PSF	Negative Design PSF	Impact Tested
411705	2203	9'-2"	050620A	050720A	102913B	102913C	26.90	30.80	Yes
411715	2240	16'-2"	042420A	N/A	090913A.1	N/A	12.40	13.80	No
411717	2242	16'-2"	042820A 042820B	042820C	082413A.1	082713A.1	30.00	33.50	Yes
412866	2249	16'-2"	AETR-00697	AETR-00706-1	AETR-00706-2	AETR-00706-3	41.30	46.70	Yes
411720	2251	18'-2"	051220C	051320A	073113A.1	080113A.1	23.00	25.00	Yes
412869	2256	18'-2"	AETR-00477	AETR-00677-1	AETR-00677-2	AETR-00677-3	32.60	36.90	Yes
412870	2257	18'-2"	AETR-00491	AETR-00696-1	AETR-00696-2	AETR-00696-3	41.30	46.70	Yes

- c. The 190/5740 and 160/7560 have 1-3/8" thick sections. The models with 1-5/8" thick sections and 2" thick sections as noted in section 4, are approved as equivalent since they will have equal or superior strength as the tested thinner sections.
- d. Given the results of the performed tests listed above, it is our conclusion that the wind load designs listed in Table 1 are equivalent to the 5745 wind load designs (FL#16798) and therefore should be approved.
2. Test Report Numbers for complete door series 5745 (FL#16798) 092613C, 092613D, 092613A, 092613B, 111113A, 111113B, 102913A, 102913B, 102913C, 111313A, 101813A, 101813B, 101813C, 102213A, 090913A.1, 091213B.1, 082413A.1, 082713A.1, 081613B.1, 082113A.1, 081213A.1, 073113A.1, 080113A.1, 072513A.1, 072513B.1, 111919A, 112019A, 112119A, 112219A, 120419B, 120519A, 120519B, 120919A, 121019A, 121219A, 121619A, 121719A, 121919A, 122019A, 122319A, 122619A, 122719A, 010620A, 013120A, 022120A, AETR-00384, AETR-00385, AETR-00388, AETR-00391, AETR-00647, AETR-00648, AETR-00397, AETR-00400, AETR-00428, AETR-00405, AETR-00417, AETR-00406, AETR-00407, AETR-00697, AETR-00706, AETR-00463, AETR-00464, AETR-00477, AETR-00677, AETR-00491, and AETR-00696 in accordance with ANSI/DASMA 108-2005, ANSI/DASMA 108-2012, and ANSI/DASMA 108-2017 for transverse wind load and ANSI/DASMA 115-2005, ANSI/DASMA 115-2012, and ANSI/DASMA

115-2017 for large missile impact resistance by Wayne Dalton, a Division of Overhead Door Corporation, 3395 Addison Dr Pensacola, FL.

3. Test reports J1626.03-801-18-r0, J1626.02-801-18-r0, and J1626.03-801-18-r0, tested in accordance with TAS201, TAS 202 and TAS 203 by Architectural Testing Inc. 2865 Market Loop, Suite B, Southlake, TX 76092.
4. Both Pensacola and Southlake test labs were accredited at the time of testing.
5. Installation instructions and supplemental data sheets prepared by Wayne Dalton, a Division of Overhead Door Corporation.

Table 3: Models 190/490/160/591/592/593/594/596/599/5740/5760/7560

Allowable Transverse Wind Loads and Impact Rating

**Glazing Options Include All-Glazed Door Assembly*

Wind load Specification Drawing	Option Code	Maximum Size		Positive Design PSF	Negative Design PSF	Reinforcement	Glazing Available (Yes /No)
		Width	Height				
411820	2600	9'-2"	24'-0"	12.80	14.80	3", 20 gage U-bars	Yes
411821	2601	9'-2"	24'-0"	18.40	20.80	3", 20 gage U-bars	Yes
411822	2602 ²	9'-2"	24'-0"	25.00	28.20	3", 20 gage U-bars	Yes
411823	2603 ²	9'-2"	24'-0"	32.60	36.90	3", 20 gage U-bars	Yes
411824	2604 ²	9'-2"	24'-0"	36.80	41.60	3", 20 gage U-bars	Yes
411825	2605 ²	9'-2"	24'-0"	41.30	46.70	3", 18 gage U-bars	Yes
411827	2607	16'-2"	24'-0"	12.40	14.80	3", 20 gage U-bars	Yes
411828	2608	16'-2"	24'-0"	18.40	20.80	3", 18 gage U-bars	Yes
411829	2609 ²	16'-2"	24'-0"	25.00	28.20	3", 18 gage U-bars	Yes
411830	2610 ²	16'-2"	24'-0"	32.60	36.90	3", 18 gage U-bars	Yes
411831	2611 ²	16'-2"	24'-0"	36.80	41.60	3", 18 gage U-bars	Yes
411832	2612 ²	16'-2"	24'-0"	41.30	46.70	3", 18 gage U-bars	Yes
411834	2614	18'-2"	24'-0"	12.80	14.80	3", 20 gage U-bars	Yes
411835	2615	18'-2"	24'-0"	18.40	20.80	3", 18 gage U-bars	Yes
411836	2616 ²	18'-2"	24'-0"	25.00	28.20	3", 18 gage U-bars	Yes
411837	2617 ²	18'-2"	24'-0"	32.60	36.90	3", 18 gage U-bars	Yes
411838	2618 ²	18'-2"	24'-0"	36.80	41.60	3", 18 gage U-bars	Yes
411839	2619 ²	18'-2"	24'-0"	41.30	46.70	3", 18 gage U-bars	Yes

Note:² The option code assemblies indicated in Table 3 have been tested for impact resistance and therefore may be used with optional glazing in the wind-borne debris region if glazing is allowed

8. SUBSTANTIATING DATA FOR TABLE 3

1. Test reports for Models 190/490/160/591/593/594/596/599/5740/5760/7560 (Table 3):
 - a. AETR-00155 through AETR-00159, AETR-00161 through AETR-00166, AETR-00192, AETR-00193, AETR-00197 through AETR-AETR-00204, and AETR-00208 through AETR-00213 conducted internally by Overhead Door Corporation, TREQ Center, 2170 French Settlement Road Dallas, TX.

Table 4: Model 190 Test Reports and Comparable Model 8300 Test Reports

Windload Specification Drawing	Option Code	Door Width	Model 190 Static Test Reports	Model 190 Impact/Cyclic Test Reports	Model 8300 Static Test Reports	Model 8300 Impact/Cyclic Test Reports	Positive Design PSF	Negative Design PSF	Impact Tested
365442	2609	16'-0"	031021A	0310218	AETR-00199	AETR -00200	25.26	28.49	Yes
411721C	2254	18'-0"	020921A	NA	NA	NA	36.8	41.6	No

- b. Test reports for complete door Model 190 (Table 4): 031021A and 0310218 of Model 190 tested in accordance with ANSI/DASMA 108-2017 for transverse wind load and ANSI/DASMA 115-2017 for large missile impact resistance conducted by Wayne Dalton, a Division of Overhead Door Corporation, 3395 Addison Dr Pensacola, FL. These tests represented a sample size of the submitted models to demonstrate the performance based on the results from the above engineering test (AETR-00200 - 8300 16'2 X 8' +25.0/-28.2 PSF static and impact testing).
 - c. Test report for complete door Model 190 (Table 4): 020921A of Model 190 tested in accordance with ANSI/DASMA 108-2017 for transvers wind load by Wayne Dalton, a Division of Overhead Door Corporation, 3395 Addison Dr Pensacola, FL. This test was conducted to validate our narrow lite frames (DLO=38"X4") manufactured by Elton.
 - d. The 190/5740 and 160/7560 have 1-3/8" thick sections. The models with 1-5/8" thick sections and 2" thick sections as noted in Section 4 page 1, are approved as equivalent since they will have equal or superior strength as the tested thinner sections.
 - e. Given the results of the performed tests listed above, it is our conclusion that the wind load designs listed in Table 3 are equivalent to the 5745 wind load designs (FL16798) and therefore should be approved.
2. Both Dallas and Pensacola test labs were accredited at the time of testing.
3. Installation instructions, wind load specification drawings, and supplemental data sheets prepared by Overhead Door Corporation.

8. REPORT SUMMARY

Upon review of the data submitted by Wayne Dalton, a Division of Overhead Door Corporation, it is my opinion that the models as described in this report conform with or are a suitable alternative to the code standards and sections in the Florida Building Code 8th Edition (2023).

9. LIMITATIONS

Any reference in this report to the manufacturer's "most recent" information is a direct reference to the most recent information submitted by Overhead Door Corporation to the Florida Building Commission as part of their Florida Product Approval application for the wind load specification drawings listed in Table 1 and Table 3 of this report.

This evaluation report and the most recent installation instructions and wind load specification drawings, when required by the building official, shall be submitted at the time of permit application.

The design of the supporting structural elements shall be the responsibility of the design professional for the building structure and in accordance with current building codes for the loads listed in Table 1 and Table 3 of this report.

The doors shall not be in areas where the transverse wind loads exceed the allowable loads shown in Table 1 or Table 3 of this report.

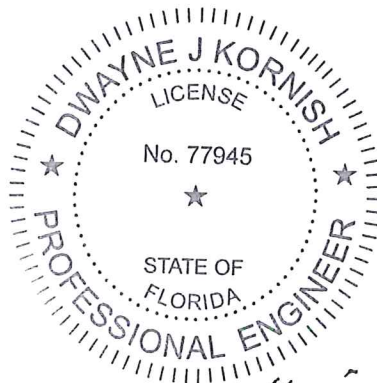
10. IDENTIFICATION

Each Model series covered by this report shall be labeled with the manufacturer's name and/or trademark for field identification.

Please feel free to contact me if you need any additional information.

Sincerely,

Dwayne J. Kornish
FL PE# 77945



Dwayne J. Kornish
12/5/2024
Shuts 1-8

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