COMMERCIAL & RESIDENTIAL GARAGE DOOR DIVISION

DASMA TECHNICAL DATA SHEET

#155x

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Garage Door and Commercial Door Wind Load Guide Based on the 2020 Florida Building Code

DASMA (the Door & Access Systems Manufacturers Association) has created a ***GARAGE DOOR AND COMMERCIAL WIND LOAD GUIDE***, based on the 2020 Florida Building Code wind load requirements[1]. The guide is intended to be used by code officials, engineers, architects, builders, owners, insurance companies and other interested parties. The Wind Load Guide also references a DASMA test procedure (ANSI/DASMA 108), which may be used by manufacturers to determine wind load performance of a garage door.

The guide is published by the Commercial & Residential Garage Door Division of DASMA, which represents an estimated 95% of all sectional garage doors sold in the United States. The Division's Technical Committee developed these tables based on the latest civil engineering and building code criteria.

In the Code, wind load for a particular structure is determined by its Risk Category. Three wind speed maps are used for Risk Categories I, II and III/IV. Risk Categories are defined as follows:

- I (Buildings and other structures that represent a low hazard to human life in the event of failure. e.g. minor storage facilities)
- II (All buildings and other structures except those listed in Risk Categories I, III, and IV)
- III (Buildings and other structures that represent a substantial hazard to human life in the event of failure, e.g. schools)
- IV (Buildings and other structures designated as essential facilities, e.g. hospitals)

[1] Wind Loads for this Garage Door Wind Load Guide were calculated based on concepts similar to those used to calculate loads shown in TDS-155t based on the 2010 and 2014 versions of the Florida Building Code.

It should be noted that the 2020 FBC wind speed maps are based on ultimate design wind speeds. Allowable stress design wind speeds (noted as "nominal design wind speeds") incorporate the load adjustment factors mandated by the load combinations in the Code. The loads in these charts should not be further reduced by any load combination factors. The following conversion chart[2] was used to determine allowable stress design wind speeds for use in the Wind Load Guide charts:

V_{ult}	100	110	120	130	140	150	160	170	180	190	200
V_{asd}	78	85	93	101	108	116	124	132	139	147	155

Notes:

1. Linear interpolation is permitted
2. V_{ult} = ultimate design wind speed, determined from the 2020 Florida Building Code, Building Volume, Figures 1609.3(1), 1609.3(2), or 1609.3(3)
3. V_{asd} = equivalent nominal design wind speed

Building envelope products that have been tested to air pressure standards are typically rated for an allowable stress design wind pressure rather than a strength design pressure or wind speed. In order to properly select products tested and rated in this manner, the wind loads in this TDS have been adjusted using an allowable stress design load factor of 0.6 as per ASCE 7-16 Section 2.4.1.

Per ASCE 7-16, minimum design wind pressure magnitude is 9.6 psf, which is the allowable stress based value converted from a 16 psf ultimate strength based value.

[2] Reference: 2020 Florida Building Code, Building Volume, Table 1609.3.1

GARAGE DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE B, 100-156 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Fig. 1609.3(1)(2)(3) in the 2020 Florida Building Code)								
		100 MPH	105 MPH	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	156 MPH
15 Feet Single Story	*Single 9' x 7'*	**9.6**	**9.6**	**9.6**	**10.2**	**11.1**	**13.1**	**15.2**	**17.4**	**18.8**
		-9.6	-9.6	-10.6	-11.6	-12.6	-14.8	-17.1	-19.7	-21.3
	Double 16' x 7'	**9.6**	**9.6**	**9.6**	**9.8**	**10.7**	**12.5**	**14.5**	**16.7**	**18.0**
		-9.6	-9.6	-10.0	-10.9	-11.9	-13.9	-16.2	-18.6	-20.1
25 Feet Double Story	*Single 9' x 7'*	**9.6**	**9.9**	**10.8**	**11.8**	**12.9**	**15.1**	**17.5**	**20.1**	**21.8**
		-10.1	-11.2	-12.2	-13.4	-14.6	-17.1	-19.8	-22.8	-24.6
	Double 16' x 7'	**9.6**	**9.6**	**10.4**	**11.3**	**12.3**	**14.5**	**16.8**	**19.3**	**20.9**
		-9.6	-10.5	-11.6	-12.6	-13.8	-16.2	-18.7	-21.5	-23.3
		78 MPH	82 MPH	85 MPH	89 MPH	93 MPH	101 MPH	108 MPH	116 MPH	121 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)								

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test Conditions:

1. Garage doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Test durations for each test direction shall be as follows:
   A. 10 seconds at design pressure.
   B. 10 seconds at 1.5 times the design pressure.

Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load.

This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determiner of the structural and safety requirements, and suitability of the garage door.

Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and include the 0.6 load reduction factor.
- Negative pressures assume door has 2 feet of width in building's end zone.
- Garage doors evaluated as attached to enclosed buildings.
- Doors larger than 112 square feet should use the 16 x 7 loads. Doors less than 112 square feet but greater than 63 square feet are permitted to be interpolated between the tabulated loads. Doors less than 63 square feet should be calculated using ASCE 7-16.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

GARAGE DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE B, 156-200 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Fig. 1609.3(1)(2)(3) in the 2020 Florida Building Code)								
		156 MPH	160 MPH	165 MPH	170 MPH	175 MPH	180 MPH	186 MPH	190 MPH	200 MPH
15 Feet Single Story	*Single 9' x 7'*	**18.8**	**19.8**	**21.0**	**22.3**	**23.7**	**25.0**	**26.7**	**27.9**	**30.9**
		-21.3	-22.4	-23.8	-25.3	-26.8	-28.3	-30.2	-31.5	-35.0
	Double 16' x 7'	**18.0**	**19.0**	**20.2**	**21.4**	**22.7**	**24.0**	**25.6**	**26.7**	**29.6**
		-20.1	-21.1	-22.5	-23.9	-25.3	-26.7	-28.6	-29.8	-33.0
25 Feet Double Story	*Single 9' x 7'*	**21.8**	**22.9**	**24.4**	**25.9**	**27.4**	**29.0**	**31.0**	**32.3**	**35.8**
		-24.6	-25.9	-27.5	-29.2	-31.0	-32.8	-35.0	-36.5	-40.5
	Double 16' x 7'	**20.9**	**21.9**	**23.3**	**24.8**	**26.3**	**27.8**	**29.7**	**30.9**	**34.3**
		-23.3	24.5	-26.0	-27.6	-29.3	-31.0	-33.1	-34.5	-38.2
		121 MPH	124 MPH	128 MPH	132 MPH	136 MPH	139 MPH	144 MPH	147 MPH	155 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)								

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test Conditions:

1. Garage doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Test durations for each test direction shall be as follows:
   A. 10 seconds at design pressure.
   B. 10 seconds at 1.5 times the design pressure.

Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load.

This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determiner of the structural and safety requirements, and suitability of the garage door.

Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and include the 0.6 load reduction factor.
- Negative pressures assume door has 2 feet of width in building's end zone.
- Garage doors evaluated as attached to enclosed buildings.
- Doors larger than 112 square feet should use the 16 x 7 loads. Doors less than 112 square feet but greater than 63 square feetare permitted to be interpolated between the tabulated loads. Doors less than 63 square feet should be calculated using ASCE 7-16.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

GARAGE DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE C, 100-150 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Fig. 1609.3(1)(2)(3) in the 2020 Florida Building Code) 100 MPH	105 MPH	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH
15 Feet Single Story	*Single 9′ x 7′*	**11.7**	**12.9**	**13.9**	**15.2**	**16.6**	**19.6**	**22.4**	**25.9**
		-13.2	-14.6	-15.7	-17.2	-18.8	-22.2	-25.3	-29.2
	Double 16′ x 7′	**11.2**	**12.4**	**13.3**	**14.6**	**15.9**	**18.8**	**21.5**	**24.8**
		-12.5	-13.8	-14.8	-16.2	-17.7	-20.9	-23.9	-27.6
25 Feet Double Story	*Single 9′ x 7′*	**12.9**	**14.3**	**15.4**	**16.8**	**18.4**	**21.7**	**24.8**	**28.6**
		-14.6	-16.1	-17.4	-19.0	-20.8	-24.5	-28.0	-32.3
	Double 16′ x 7′	**12.4**	**13.7**	**14.7**	**16.1**	**17.6**	**20.8**	**23.7**	**27.4**
		-13.8	-15.3	-16.4	-18.0	-19.6	-23.1	-26.5	-30.5
		78 MPH	82 MPH	85 MPH	89 MPH	93 MPH	101 MPH	108 MPH	116 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)							

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test Conditions:

1. Garage doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Test durations for each test direction shall be as follows:
   A. 10 seconds at design pressure.
   B. 10 seconds at 1.5 times the design pressure.

Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load. This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determiner of the structural and safety requirements, and suitability of the garage door.

Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and include the 0.6 load reduction factor.
- Negative pressures assume door has 2 feet of width in building's end zone.
- Garage doors evaluated as attached to enclosed buildings.
- Doors larger than 112 square feet should use the 16 x 7 loads. Doors less than 112 square feet but greater than 63 square feet are permitted to be interpolated between the tabulated loads. Doors less than 63 square feet should be calculated using ASCE 7-16.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

GARAGE DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE C, 156-200 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Fig. 1609.3(1)(2)(3) in the 2020 Florida Building Code)								
		156 MPH	160 MPH	165 MPH	170 MPH	175 MPH	180 MPH	186 MPH	190 MPH	200 MPH
15 Feet Single Story	*Single 9' x 7'*	**28.1**	**29.5**	**31.5**	**33.5**	**35.5**	**37.1**	**39.8**	**41.5**	**46.2**
		-31.8	-33.4	-35.6	-37.8	-40.2	-42.0	-45.0	-46.9	-52.2
	Double 16' x 7'	**26.9**	**28.3**	**30.1**	**32.1**	**34.0**	**35.5**	**38.2**	**39.8**	**44.2**
		-30.0	-31.5	-33.6	-35.7	-37.9	-39.6	-42.5	-44.3	-49.3
25 Feet Double Story	*Single 9' x 7'*	**31.1**	**32.7**	**34.8**	**37.0**	**39.3**	**41.1**	**44.1**	**45.9**	**51.1**
		-35.2	-36.9	-39.3	-41.8	-44.4	-46.4	-49.8	-51.9	-57.7
	Double 16' x 7'	**29.8**	**31.3**	**33.3**	**35.5**	**37.6**	**39.3**	**42.2**	**44.0**	**48.9**
		-33.2	-34.9	-37.2	-39.5	-42.0	-43.8	-47.0	-49.0	-54.5
		121 MPH	124 MPH	128 MPH	132 MPH	136 MPH	139 MPH	144 MPH	147 MPH	155 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)								

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test Conditions:

1. Garage doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Test durations for each test direction shall be as follows:
   A. 10 seconds at design pressure.
   B. 10 seconds at 1.5 times the design pressure.

Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load. This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determiner of the structural and safety requirements, and suitability of the garage door.

Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and include the 0.6 load reduction factor.
- Negative pressures assume door has 2 feet of width in building's end zone.
- Garage doors evaluated as attached to enclosed buildings.
- Doors larger than 112 square feet should use the 16 x 7 loads. Doors less than 112 square feet but greater than 63 square feet are permitted to be interpolated between the tabulated loads. Doors less than 63 square feet should be calculated using ASCE 7-16.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

GARAGE DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE D, 100-150 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Fig. 1609.3(1)(2)(3) in the 2020 Florida Building Code) 100 MPH	105 MPH	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH
15 Feet Single Story	*Single 9′ x 7′*	**14.2**	**15.7**	**16.8**	**18.4**	**20.1**	**23.8**	**27.2**	**31.3**
		-16.0	-17.7	-19.0	-20.8	-22.8	-26.8	-30.7	-35.4
	Double 16′ x 7′	**13.6**	**15.0**	**16.1**	**17.7**	**19.3**	**22.7**	**26.0**	**30.0**
		-15.1	-16.7	-18.0	-19.7	-21.5	-25.4	-29.0	-33.4
25 Feet Double Story	*Single 9′ x 7′*	**15.4**	**17.0**	**18.3**	**20.1**	**21.9**	**25.8**	**29.5**	**34.1**
		-17.4	-19.2	-20.7	-22.7	-24.7	-29.2	-33.4	-38.5
	Double 16′ x 7′	**14.7**	**16.3**	**17.5**	**19.2**	**21.0**	**24.7**	**28.3**	**32.6**
		-16.4	-18.2	-19.5	-21.4	-23.4	-27.6	-31.5	-36.4
		78 MPH	82 MPH	85 MPH	89 MPH	93 MPH	101 MPH	108 MPH	116 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)							

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test Conditions:

1. Garage doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Test durations for each test direction shall be as follows:
   A. 10 seconds at design pressure.
   B. 10 seconds at 1.5 times the design pressure.

Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load. This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determiner of the structural and safety requirements, and suitability of the garage door.

Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and include the 0.6 load reduction factor.
- Negative pressures assume door has 2 feet of width in building's end zone.
- Garage doors evaluated as attached to enclosed buildings.
- Doors larger than 112 square feet should use the 16 x 7 loads. Doors less than 112 square feet but greater than 63 square feet are permitted to be interpolated between the tabulated loads. Doors less than 63 square feet should be calculated using ASCE 7-16.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

GARAGE DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE D, 156-200 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Fig. 1609.3(1)(2)(3) in the 2020 Florida Building Code)								
		156 MPH	160 MPH	165 MPH	170 MPH	175 MPH	180 MPH	186 MPH	190 MPH	200 MPH
15 Feet Single Story	*Single 9′ x 7′*	**34.1**	**35.8**	**38.1**	**40.6**	**43.1**	**45.0**	**48.3**	**50.3**	**55.9**
		-38.5	-40.5	-43.1	-45.9	-48.7	-50.8	-54.6	-56.9	-63.2
	Double 16′ x 7′	**32.6**	**34.3**	**36.5**	**38.8**	**41.2**	**43.1**	**46.2**	**48.2**	**53.6**
		-36.4	-38.2	-40.7	-43.3	-46.0	-48.0	-51.5	-53.7	-59.7
25 Feet Double Story	*Single 9′ x 7′*	**37.1**	**38.9**	**41.5**	**44.1**	**46.8**	**48.9**	**52.5**	**54.7**	**60.8**
		-41.9	-44.0	-46.9	-49.9	-52.9	-55.3	-59.3	-61.8	-68.7
	Double 16′ x 7′	**35.5**	**37.3**	**39.7**	**42.2**	**44.8**	**46.8**	**50.3**	**52.4**	**58.2**
		-39.6	-41.6	-44.3	-47.1	-50.0	-52.2	-56.0	-58.4	-64.9
		121 MPH	124 MPH	128 MPH	132 MPH	136 MPH	139 MPH	144 MPH	147 MPH	155 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)								

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test Conditions:

1. Garage doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Test durations for each test direction shall be as follows:
   A. 10 seconds at design pressure.
   B. 10 seconds at 1.5 times the design pressure.

Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load. This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determiner of the structural and safety requirements, and suitability of the garage door.

Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and include the 0.6 load reduction factor.
- Negative pressures assume door has 2 feet of width in building's end zone.
- Garage doors evaluated as attached to enclosed buildings.
- Doors larger than 112 square feet should use the 16 x 7 loads. Doors less than 112 square feet but greater than 63 square feet are permitted to be interpolated between the tabulated loads. Doors less than 63 square feet should be calculated using ASCE 7-16.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

COMMERCIAL DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE B, 100-150 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Fig. 1609.3(1)(2)(3) in the 2020 Florida Building Code)							
		100 MPH	105 MPH	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH
15 Feet	*8′ x 8′*	**9.6**	**9.6**	**9.6**	**9.6**	**10.2**	**12.0**	**13.9**	**15.9**
		-9.6	-9.6	-9.7	-10.6	-11.5	-13.5	-15.7	-18.0
	10′ x 10′	**9.6**	**9.6**	**9.6**	**9.6**	**9.9**	**11.6**	**13.4**	**15.4**
		-9.6	-9.6	-9.6	-10.2	-11.1	-13.0	-15.1	-17.3
	14′ x 14′	**9.6**	**9.6**	**9.6**	**9.6**	**9.6**	**11.0**	**12.8**	**14.6**
		-9.6	-9.6	-9.6	-9.6	-10.4	-12.2	-14.2	-16.3
25 Feet	*8′ x 8′*	**9.6**	**9.6**	**9.9**	**10.8**	**11.8**	**13.9**	**16.1**	**18.5**
		-9.6	-10.2	-11.2	-12.3	-13.4	-15.7	-18.2	-20.9
	10′ x 10′	**9.6**	**9.6**	**9.6**	**10.5**	**11.4**	**13.4**	**15.6**	**17.9**
		9.6	-9.8	-10.8	-11.8	-12.8	-15.0	-17.5	-20.0
	14′ x 14′	**9.6**	**9.6**	**9.6**	**10.0**	**10.9**	**12.7**	**14.8**	**17.0**
		-9.6	-9.6	-10.2	-11.1	-12.1	-14.2	-16.4	-18.9
		78 MPH	82 MPH	85 MPH	89 MPH	93 MPH	101 MPH	108 MPH	116 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)							

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test conditions:

1. Garage doors and rolling doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (for garage doors, i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Test durations for each test direction shall be as follows:
   A. 10 seconds at design pressure.
   B. 10 seconds at 1.5 times the design pressure.

Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load. This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determiner of the structural and safety requirements, and suitability of the garage door or rolling door.

Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and include the 0.6 load reduction factor.
- Negative pressures assume door has 2 feet of width in building's end zone.
- Garage doors evaluated as attached to enclosed buildings.
- Buildings evaluated as having roof slopes less than 10 degrees.
- Doors larger than 196 square feet should use the 14 x 14 loads. Doors less than 196 square feet but greater than 64 square feet are permitted to be interpolated between the tabulated loads. Loads on doors that are less than 64 square feet should be calculated in accordance with ASCE 7-16.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

COMMERCIAL DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE B, 156-200 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Figures 1609.3(1)(2)(3) in the 2020 Florida Building Code)								
		156 MPH	160 MPH	165 MPH	170 MPH	175 MPH	180 MPH	186 MPH	190 MPH	200 MPH
15 Feet	*8′ x 8′*	**17.2**	**18.1**	**19.3**	**20.5**	**21.7**	**23.0**	**24.5**	**25.6**	**28.3**
		-19.5	-20.5	-21.8	-23.2	-24.6	-26.0	-27.7	-28.9	-32.1
	10′ x 10′	**16.7**	**17.5**	**18.7**	**19.8**	**21.0**	**22.2**	**23.7**	**24.7**	**27.4**
		-18.7	-19.7	-20.9	-22.2	-23.5	-24.9	-26.6	-27.8	-30.8
	14′ x 14′	**15.8**	**16.7**	**17.7**	**18.8**	**19.9**	**21.1**	**22.5**	**23.5**	**26.0**
		-17.6	-18.6	-19.7	-20.9	-22.2	-23.5	-25.1	-26.2	-29.0
25 Feet	*8′ x 8′*	**20.0**	**21.0**	**22.3**	**23.7**	**25.1**	**26.6**	**28.4**	**29.6**	**32.8**
		-22.6	-23.8	-25.3	-26.8	-28.4	-30.1	-32.1	-33.5	-37.1
	10′ x 10′	**19.3**	**20.3**	**21.6**	**22.9**	**24.3**	**25.7**	**27.5**	**28.7**	**31.7**
		-21.7	-22.8	-24.2	-25.7	-27.3	-28.8	-30.8	-32.1	-35.6
	14′ x 14′	**18.3**	**19.3**	**20.5**	**21.8**	**23.1**	**24.4**	**26.1**	**27.2**	**30.1**
		-20.4	-21.5	-22.8	-24.3	-25.7	-27.2	-29.0	-30.3	-33.6
		121 MPH	124 MPH	128 MPH	132 MPH	136 MPH	139 MPH	144 MPH	147 MPH	155 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)								

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test conditions:

1. Garage doors and rolling doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (for garage doors, i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Test durations for each test direction shall be as follows:
   A. 10 seconds at design pressure.
   B. 10 seconds at 1.5 times the design pressure.

Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load. This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determiner of the structural and safety requirements, and suitability of the garage door or rolling door.

Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and include the 0.6 load reduction factor.
- Negative pressures assume door has 2 feet of width in building's end zone.
- Garage doors evaluated as attached to enclosed buildings.
- Buildings evaluated as having roof slopes less than 10 degrees.
- Doors larger than 196 square feet should use the 14 x 14 loads. Doors less than 196 square feet but greater than 64 square feet are permitted to be interpolated between the tabulated loads. Loads on doors that are less than 64 square feet should be calculated in accordance with ASCE 7-16.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

COMMERCIAL DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE C, 100-150 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Fig. 1609.3(1)(2)(3) in the 2020 Florida Building Code)							
		100 MPH	105 MPH	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH
15 Feet	*8′ x 8′*	**10.7**	**11.8**	**12.7**	**13.9**	**15.2**	**18.0**	**20.5**	**23.7**
		-12.1	-13.4	-14.4	-15.8	-17.2	-20.3	-23.2	-26.8
	10′ x 10′	**10.4**	**11.5**	**12.3**	**13.5**	**14.7**	**17.4**	**19.9**	**22.9**
		-11.6	-12.9	-13.8	-15.1	-16.5	-19.5	-22.3	-25.7
	14′ x 14′	**9.8**	**10.9**	**11.7**	**12.8**	**14.0**	**16.5**	**18.9**	**21.8**
		-11.0	-12.1	-13.0	-14.3	-15.6	-18.4	-21.0	-24.2
25 Feet	*8′ x 8′*	**11.8**	**13.1**	**14.1**	**15.4**	**16.8**	**19.9**	**22.7**	**26.2**
		-13.4	-14.8	-15.9	-17.5	-19.1	-22.5	-25.7	-29.7
	10′ x 10′	**11.5**	**12.7**	**13.6**	**14.9**	**16.3**	**19.2**	**22.0**	**25.4**
		-12.9	-14.2	-15.3	-16.7	-18.3	-21.6	-24.7	-28.4
	14′ x 14′	**10.9**	**12.0**	**12.9**	**14.2**	**15.5**	**18.2**	**20.9**	**24.1**
		-12.1	-13.4	-14.4	-15.8	-17.2	-20.3	-23.2	-26.8
		78 MPH	82 MPH	85 MPH	89 MPH	93 MPH	101 MPH	108 MPH	116 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)							

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test conditions:

1. Garage doors and rolling doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (for garage doors, i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Test durations for each test direction shall be as follows:
   A. 10 seconds at design pressure.
   B. 10 seconds at 1.5 times the design pressure.

Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load. This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determiner of the structural and safety requirements, and suitability of the garage door or rolling door.

Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and include the 0.6 load reduction factor.
- Negative pressures assume door has 2 feet of width in building's end zone.
- Garage doors evaluated as attached to enclosed buildings.
- Buildings evaluated as having roof slopes less than 10 degrees.
- Doors larger than 196 square feet should use the 14 x 14 loads. Doors less than 196 square feet but greater than 64 square feet are permitted to be interpolated between the tabulated loads. Loads on doors that are less than 64 square feet should be calculated in accordance with ASCE 7-16.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

COMMERCIAL DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE C, 156-200 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Figures 1609.3(1)(2)(3) in the 2020 Florida Building Code)								
		156 MPH	160 MPH	165 MPH	170 MPH	175 MPH	180 MPH	186 MPH	190 MPH	200 MPH
15 Feet	*8′ x 8′*	**25.8**	**27.1**	**28.8**	**30.7**	**32.6**	**34.0**	**36.5**	**38.0**	**42.3**
		-29.2	-30.6	-32.6	-34.7	-36.9	-38.5	-41.3	-43.1	-47.9
	10′ x 10′	**24.9**	**26.2**	**27.9**	**29.7**	**31.5**	**32.9**	**35.3**	**36.8**	**40.9**
		-28.0	-29.4	-31.3	-33.3	-35.3	-36.9	-39.6	-41.3	-45.9
	14′ x 14′	**23.7**	**24.9**	**26.5**	**28.2**	**29.9**	**31.3**	**33.5**	**35.0**	**38.9**
		-26.4	-27.7	-29.5	-31.4	-33.3	-34.8	-37.4	-38.9	-43.3
25 Feet	*8′ x 8′*	**28.5**	**29.9**	**31.9**	**33.9**	**36.0**	**37.6**	**40.4**	**42.1**	**46.8**
		-32.3	-33.9	-36.1	-38.4	-40.8	-42.6	-45.7	-47.6	-52.9
	10′ x 10′	**27.6**	**29.0**	**30.9**	**32.8**	**34.8**	**36.4**	**39.1**	**40.7**	**45.3**
		-30.9	-32.5	-34.6	-36.8	-39.1	-40.8	-43.8	-45.7	-50.8
	14′ x 14′	**26.2**	**27.5**	**29.3**	**31.2**	**33.1**	**34.6**	**37.1**	**38.7**	**43.0**
		-29.2	-30.6	-32.6	-34.7	-36.8	-38.5	-41.3	-43.0	-47.9
		121 MPH	124 MPH	128 MPH	132 MPH	136 MPH	139 MPH	144 MPH	147 MPH	155 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)								

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test conditions:

1. Garage doors and rolling doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (for garage doors, i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Test durations for each test direction shall be as follows:
   A. 10 seconds at design pressure.
   B. 10 seconds at 1.5 times the design pressure.

Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load. This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determiner of the structural and safety requirements, and suitability of the garage door or rolling door.

Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and include the 0.6 load reduction factor.
- Negative pressures assume door has 2 feet of width in building's end zone.
- Garage doors evaluated as attached to enclosed buildings.
- Buildings evaluated as having roof slopes less than 10 degrees.
- Doors larger than 196 square feet should use the 14 x 14 loads. Doors less than 196 square feet but greater than 64 square feet are permitted to be interpolated between the tabulated loads. Loads on doors that are less than 64 square feet should be calculated in accordance with ASCE 7-16.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

COMMERCIAL DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE D, 100-150 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Fig. 1609.3(1)(2)(3) in the 2020 Florida Building Code)							
		100 MPH	105 MPH	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH
15 Feet	*8′ x 8′*	**13.0**	**14.3**	**15.4**	**16.9**	**18.5**	**21.8**	**24.9**	**28.7**
		-14.7	-16.2	-17.4	-19.1	-20.9	-24.6	-28.2	-32.5
	10′ x 10′	**12.6**	**13.9**	**14.9**	**16.4**	**17.9**	**21.1**	**24.1**	**27.8**
		-14.1	-15.6	-16.7	-18.3	-20.0	-23.6	-27.0	-31.2
	14′ x 14′	**11.9**	**13.2**	**14.2**	**15.5**	**17.0**	**20.0**	**22.9**	**26.4**
		-13.3	-14.7	-15.8	-17.3	-18.9	-22.3	-25.5	-29.4
25 Feet	*8′ x 8′*	**14.1**	**15.6**	**16.8**	**18.4**	**20.1**	**23.7**	**27.1**	**31.2**
		-16.0	-17.7	-19.0	-20.8	-22.7	-26.8	-30.6	-35.3
	10′ x 10′	**13.7**	**15.1**	**16.2**	**17.8**	**19.4**	**22.9**	**26.2**	**30.2**
		-15.3	-16.9	-18.2	-19.9	-21.8	-25.7	-29.4	-33.9
	14′ x 14′	**13.0**	**14.3**	**15.4**	**16.9**	**18.4**	**21.7**	**24.9**	**28.7**
		-14.4	-16.0	-17.1	-18.8	-20.5	-24.2	-27.7	-31.9
		78 MPH	82 MPH	85 MPH	89 MPH	93 MPH	101 MPH	108 MPH	116 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)							

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test conditions:

1. Garage doors and rolling doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (for garage doors, i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
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   A. 10 seconds at design pressure.
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- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

COMMERCIAL DOOR WIND LOAD GUIDE

BASED ON THE 2020 FLORIDA BUILDING CODE, EXPOSURE D, 156-200 MPH, ULTIMATE DESIGN WIND SPEED

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V_ult) (from maps in Figures 1609.3(1)(2)(3) in the 2020 Florida Building Code)								
		156 MPH	160 MPH	165 MPH	170 MPH	175 MPH	180 MPH	186 MPH	190 MPH	200 MPH
15 Feet	*8′ x 8′*	**31.2**	**32.8**	**35.0**	**37.2**	**39.5**	**41.2**	**44.2**	**46.1**	**51.3**
		-35.4	-37.1	-39.6	-42.1	-44.7	-46.7	-50.1	-52.2	-58.0
	10′ x 10′	**30.2**	**31.7**	**33.8**	**36.0**	**38.2**	**39.9**	**42.8**	**44.6**	**49.6**
		-33.9	-35.6	-37.9	-40.4	-42.8	-44.7	-48.0	-50.0	-55.6
	14′ x 14′	**28.7**	**30.1**	**32.1**	**34.2**	**36.3**	**37.9**	**40.6**	**42.4**	**47.1**
		-32.0	-33.6	-35.8	-38.0	-40.4	-42.2	-45.3	-47.2	-52.4
25 Feet	*8′ x 8′*	**34.0**	**35.7**	**38.0**	**40.4**	**42.9**	**44.8**	**48.1**	**50.1**	**55.7**
		-38.4	-40.4	-43.0	-45.7	-48.6	-50.7	-54.4	-56.7	-63.1
	10′ x 10′	**32.9**	**34.5**	**36.8**	**39.1**	**41.5**	**43.4**	**46.5**	**48.5**	**53.9**
		-36.9	-38.7	-41.3	-43.9	-46.6	-48.7	-52.2	-54.4	-60.5
	14′ x 14′	**31.2**	**32.8**	**34.9**	**37.1**	**39.4**	**41.2**	**44.2**	**46.1**	**51.2**
		-34.7	-36.5	-38.9	-41.4	-43.9	-45.9	-49.2	-51.3	-57.0
		121 MPH	124 MPH	128 MPH	132 MPH	136 MPH	139 MPH	144 MPH	147 MPH	155 MPH
		Equivalent Nominal Design Wind Speed (from the 2020 Florida Building Code)								

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably ANSI/DASMA 108, with acceptance criteria in accordance with ANSI/DASMA 108.

Test conditions:

1. Garage doors and rolling doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (for garage doors, i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
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