



**DASMA**  
Door & Access Systems  
Manufacturers Association  
International

COMMERCIAL & RESIDENTIAL GARAGE DOOR DIVISION

# TECHNICAL DATA SHEET

## #155t

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## DASMA Garage Door and Commercial Door Wind Load Guide Based on the 2010 Florida Building Code

DASMA (the Door & Access Systems Manufacturers Association) has created a ***GARAGE DOOR AND COMMERCIAL WIND LOAD GUIDES***, based on the 2010 Florida Building Code wind load requirements<sup>1</sup>. 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 structural 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, the best technical talent in the garage door industry, 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)

<sup>1</sup> Wind Loads for this Garage Door Wind Load Guide were calculated based on concepts similar to those used to calculate loads shown in TDS-155o which are based on the 2004/2007 Florida Building Code.

<sup>2</sup> Reference: 2010 Florida Building Code, Building Volume, Table 1609.3.1

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This Technical Data Sheet was prepared by the members of DASMA's Commercial & Residential Garage Door Division Technical Committee. DASMA is a trade association comprising manufacturers of rolling doors, fire doors, grilles, counter shutters, sheet doors, and related products; upward-acting residential and commercial garage doors; operating devices for garage doors and gates, sensing devices, and electronic remote controls for garage doors and gate operators; as well as companies that manufacture or supply either raw materials or significant components used in the manufacture and installation of the Active Members' products.

**It should be noted that the 2010 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<sup>2</sup> 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 2010 Florida Building Code, Building Volume, Figures 1609A, 1609B, or 1609C
3.  $V_{asd}$  = equivalent nominal design wind speed

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**GARAGE DOOR WIND LOAD GUIDE**

**BASED ON THE 2010 FLORIDA BUILDING CODE, EXPOSURE B, 100-140 MPH, ULTIMATE DESIGN WIND SPEED**

Mean Roof Height	Door Size	Ultimate Design Wind Speed ( $V_{ult}$ ) (from maps in Figures 1609A, B and C in the 2010 Florida Building Code)						
		100 MPH	105 MPH	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH
Less than 30 Feet	Single 9' x 7'	<b>9.6</b>	<b>10.5</b>	<b>11.4</b>	<b>12.5</b>	<b>13.7</b>	<b>16.1</b>	<b>18.5</b>
		-10.9	-11.9	-12.9	-14.2	-15.5	-18.2	-20.9
	Double 16' x 7'	<b>9.2</b>	<b>10.1</b>	<b>10.9</b>	<b>12.0</b>	<b>13.1</b>	<b>15.5</b>	<b>17.7</b>
		-10.3	-11.2	-12.2	-13.4	-14.6	-17.2	-19.7
		78 MPH	82 MPH	85 MPH	89 MPH	93 MPH	101 MPH	108 MPH
		Equivalent Nominal Design Wind Speed ( $V_{asd}$ ) (from the 2007 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 should not be reduced by the load combination factors in the 2010 Florida Building Code, Building Volume, Equation 16-14.
- 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 100 square feet should use the 16 x 7 loads. Doors less than 100 square feet may be interpolated.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

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**GARAGE DOOR WIND LOAD GUIDE**

**BASED ON THE 2010 FLORIDA BUILDING CODE, EXPOSURE B, 150-200 MPH, ULTIMATE DESIGN WIND SPEED**

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH ( $V_{ult}$ ) (from maps in Figures 1609A B and C in the 2010 Florida Building Code)						
		150 MPH	160 MPH	170 MPH	180 MPH	186 MPH	190 MPH	200 MPH
Less than 30 Feet	<i>Single</i> 9' x 7'	<b>21.3</b> -24.1	<b>24.3</b> -27.5	<b>27.6</b> -31.2	<b>30.6</b> -34.6	<b>32.7</b> -37.0	<b>34.2</b> -38.6	<b>38.0</b> -43.0
	<i>Double</i> 16' x 7'	<b>20.4</b> -22.7	<b>23.3</b> -26.0	<b>26.4</b> -29.4	<b>29.3</b> -32.6	<b>31.3</b> -34.9	<b>32.7</b> -36.5	<b>36.4</b> -40.6
		116 MPH	124 MPH	132 MPH	139 MPH	144 MPH	147 MPH	155 MPH
		Equivalent Nominal Design Wind Speed (from 2007 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)
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  - A. 10 seconds at design pressure.
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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 should not be reduced by the load combination factors in the 2010 Florida Building Code, Building Volume, Equation 16-14.
- 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 100 square feet should use the 16 x 7 loads. Doors less than 100 square feet may be interpolated.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

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**GARAGE DOOR WIND LOAD GUIDE**

**BASED ON THE 2010 FLORIDA BUILDING CODE, EXPOSURE C, 100-150 MPH, ULTIMATE DESIGN WIND SPEED**

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V <sub>ult</sub> ) (from maps in Figures 1609A B and C in the 2010 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	12.8	13.9	15.2	16.6	19.6	22.4	25.9
	Double 16' x 7'	-13.2	-14.4	-15.7	-17.2	-18.8	-22.2	-25.3	-29.2
25 Feet Double Story	Single 9' x 7'	11.2	12.2	13.3	14.6	15.9	18.8	21.5	24.8
	Double 16' x 7'	-12.5	-13.6	-14.8	-16.2	-17.7	-20.9	-23.9	-27.6
25 Feet Double Story	Single 9' x 7'	12.9	14.1	15.4	16.8	18.4	21.7	24.8	28.6
	Double 16' x 7'	-14.6	-16.0	-17.4	-19.0	-20.8	-24.5	-28.0	-32.3
		12.4	13.5	14.7	16.1	17.6	20.8	23.7	27.4
		-13.8	-15.1	-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
<b>Equivalent Nominal Design Wind Speed</b> (from 2007 Florida Building Code)									

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## GARAGE DOOR WIND LOAD GUIDE

**BASED ON THE 2010 FLORIDA BUILDING CODE, EXPOSURE C, 156-200 MPH, ULTIMATE DESIGN WIND SPEED**

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V <sub>ult</sub> ) (from maps in Figures 1609A B and C in the 2010 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	<i>Single 9' x 7'</i>	<b>28.0</b>	<b>29.5</b>	<b>31.5</b>	<b>33.5</b>	<b>35.3</b>	<b>37.1</b>	<b>39.7</b>	<b>41.5</b>	<b>46.2</b>
	<i>Double 16' x 7'</i>	-31.7	-33.4	-35.6	-37.8	-39.9	-42.0	-44.9	-46.9	-52.2
25 Feet Double Story	<i>Single 9' x 7'</i>	<b>26.8</b>	<b>28.3</b>	<b>30.1</b>	<b>32.1</b>	<b>33.8</b>	<b>35.5</b>	<b>38.0</b>	<b>39.8</b>	<b>44.2</b>
	<i>Double 16' x 7'</i>	-29.9	-31.5	-33.6	-35.7	-37.7	-39.6	-42.4	-44.3	-49.3
25 Feet Double Story	<i>Single 9' x 7'</i>	<b>31.0</b>	<b>32.7</b>	<b>34.8</b>	<b>37.0</b>	<b>39.0</b>	<b>41.1</b>	<b>43.9</b>	<b>45.9</b>	<b>51.1</b>
	<i>Double 16' x 7'</i>	-35.0	-36.9	-39.3	-41.8	-44.1	-46.4	-49.7	-51.9	-57.7
		<b>29.7</b>	<b>31.3</b>	<b>33.3</b>	<b>35.5</b>	<b>37.4</b>	<b>39.3</b>	<b>42.1</b>	<b>44.0</b>	<b>48.9</b>
		-33.1	-34.9	-37.2	-39.5	-41.7	-43.8	-46.9	-49.0	-54.5
		121 MPH	124 MPH	128 MPH	132 MPH	136 MPH	139 MPH	144 MPH	147 MPH	155 MPH
		<b>Equivalent Nominal Design Wind Speed</b> (from 2007 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.
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**Notes:**

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- Garage doors evaluated as attached to enclosed buildings.
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**GARAGE DOOR WIND LOAD GUIDE**

**BASED ON THE 2010 FLORIDA BUILDING CODE, EXPOSURE D, 100-150 MPH, ULTIMATE DESIGN WIND SPEED**

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V <sub>ult</sub> ) (from maps in Figures 1609A B and C in the 2010 Florida Building Code)							
		100 MPH	105 MPH	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH
15 Feet Single Story	<i>Single 9' x 7'</i>	<b>14.2</b> -16.0	<b>15.5</b> -17.5	<b>16.8</b> -19.0	<b>18.4</b> -20.8	<b>20.1</b> -22.8	<b>23.8</b> -26.8	<b>27.2</b> -30.7	<b>31.3</b> -35.4
	<i>Double 16' x 7'</i>	<b>13.6</b> -15.1	<b>14.8</b> -16.5	<b>16.1</b> -18.0	<b>17.7</b> -19.7	<b>19.3</b> -21.5	<b>22.7</b> -25.4	<b>26.0</b> -29.0	<b>30.0</b> -33.4
25 Feet Double Story	<i>Single 9' x 7'</i>	<b>15.4</b> -17.4	<b>16.8</b> -19.0	<b>18.3</b> -20.7	<b>20.1</b> -22.7	<b>21.9</b> -24.7	<b>25.8</b> -29.2	<b>29.5</b> -33.4	<b>34.1</b> -38.5
	<i>Double 16' x 7'</i>	<b>14.7</b> -16.4	<b>16.1</b> -18.0	<b>17.5</b> -19.5	<b>19.2</b> -21.4	<b>21.0</b> -23.4	<b>24.7</b> -27.6	<b>28.3</b> -31.5	<b>32.6</b> -36.4
		78 MPH	82 MPH	85 MPH	89 MPH	93 MPH	101 MPH	108 MPH	116 MPH
<b>Equivalent Nominal Design Wind Speed</b> (from 2007 Florida Building Code)									

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		156 MPH	160 MPH	165 MPH	170 MPH	175 MPH	180 MPH	186 MPH	190 MPH	200 MPH
15 Feet Single Story	<i>Single</i> 9' x 7'	<b>34.0</b> -38.4	<b>35.8</b> -40.5	<b>38.1</b> -43.1	<b>40.6</b> -45.9	<b>42.7</b> -48.3	<b>45.0</b> -50.8	<b>48.1</b> -54.4	<b>50.3</b> -56.9	<b>55.9</b> -63.2
	<i>Double</i> 16' x 7'	<b>32.5</b> -36.3	<b>34.3</b> -38.2	<b>36.5</b> -40.7	<b>38.8</b> -43.3	<b>40.9</b> -45.6	<b>43.1</b> -48.0	<b>46.1</b> -51.4	<b>48.2</b> -53.7	<b>53.6</b> -59.7
25 Feet Double Story	<i>Single</i> 9' x 7'	<b>36.9</b> -41.8	<b>38.9</b> -44.0	<b>41.5</b> -46.9	<b>44.1</b> -49.9	<b>46.5</b> -52.5	<b>48.9</b> -55.3	<b>52.4</b> -59.2	<b>54.7</b> -61.8	<b>60.8</b> -68.7
	<i>Double</i> 16' x 7'	<b>35.4</b> -39.4	<b>37.3</b> -41.6	<b>39.7</b> -44.3	<b>42.2</b> -47.1	<b>44.5</b> -49.6	<b>46.8</b> -52.2	<b>50.1</b> -55.9	<b>52.4</b> -58.4	<b>58.2</b> -64.9
		121 MPH	124 MPH	128 MPH	132 MPH	136 MPH	139 MPH	144 MPH	147 MPH	155 MPH
<b>Equivalent Nominal Design Wind Speed</b> (from 2007 Florida Building Code)										

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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 should not be reduced by the load combination factors in the 2010 Florida Building Code, Building Volume, Equation 16-14.
- 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 100 square feet should use the 16 x 7 loads. Doors less than 100 square feet may be interpolated.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

**For more information, contact DASMA, 1300 Sumner Avenue, Cleveland OH 44115-2851**

**Phone (216) 241-7333 E-mail: [dasma@dasma.com](mailto:dasma@dasma.com) Fax (216) 241-0105 URL: [www.dasma.com](http://www.dasma.com)**

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**COMMERCIAL DOOR WIND LOAD GUIDE**

**BASED ON THE 2010 FLORIDA BUILDING CODE, EXPOSURE B, 100-140 MPH, ULTIMATE DESIGN WIND SPEED**

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V <sub>ult</sub> ) (from maps in Figures 1609A B and C in the 2010 Florida Building Code)						
		100 MPH	105 MPH	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH
Less than 30 Feet	8' x 8'	8.8	9.6	10.5	11.5	12.5	14.8	16.9
		-10.0	-10.9	-11.9	-13.0	-14.2	-16.7	-19.1
	10' x 10'	8.5	9.3	10.1	11.1	12.1	14.3	16.4
		-9.6	-10.5	-11.4	-12.5	-13.6	-16.1	-18.4
	14' x 14'	8.1	8.8	9.6	10.6	11.5	13.6	15.5
		-9.0	-9.9	-10.7	-11.8	-12.8	-15.1	-17.3
		78 MPH	82 MPH	85 MPH	89 MPH	93 MPH	101 MPH	108 MPH
		Equivalent Nominal Design Wind Speed (from 2007 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 should not be reduced by the load combination factors in the 2010 Florida Building Code, Building Volume, Equation 16-14.
- 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 7-10.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

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**COMMERCIAL DOOR WIND LOAD GUIDE**

**BASED ON THE 2010 FLORIDA BUILDING CODE, EXPOSURE B, 150-200 MPH, ULTIMATE DESIGN WIND SPEED**

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH ( $V_{ult}$ ) (from maps in Figures 1609A B and C in the 2010 Florida Building Code)							
		150 MPH	160 MPH	170 MPH	180 MPH	186 MPH	190 MPH	200 MPH	
Less than 30 Feet	8' x 8'	19.5	22.3	25.3	28.0	30.0	31.3	34.8	
		-22.1	-25.2	-28.6	-31.7	-33.9	-35.5	-39.4	
	10' x 10'	18.9	21.6	24.4	27.1	29.0	30.3	33.7	
		-21.2	-24.2	-27.4	-30.4	-32.5	-34.0	-37.8	
	14' x 14'	17.9	20.5	23.2	25.7	27.5	28.8	32.0	
		-20.0	-22.8	-25.8	-28.7	-30.7	-32.1	-35.6	
		116 MPH	124 MPH	132 MPH	139 MPH	144 MPH	147 MPH	155 MPH	
		<b>Equivalent Nominal Design Wind Speed</b> (from 2007 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 should not be reduced by the load combination factors in the 2010 Florida Building Code, Building Volume, Equation 16-14.
- 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 7-10.
- Garage doors evaluated as Components and Cladding.
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**COMMERCIAL DOOR WIND LOAD GUIDE**

**BASED ON THE 2010 FLORIDA BUILDING CODE, EXPOSURE C, 100-150 MPH, ULTIMATE DESIGN WIND SPEED**

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V <sub>ult</sub> ) (from maps in Figures 1609A B and C in the 2010 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	11.7	12.7	13.9	15.2	18.0	20.5	23.7
		-12.1	-13.2	-14.4	-15.8	-17.2	-20.3	-23.2	-26.8
	10' x 10'	10.4	11.3	12.3	13.5	14.7	17.4	19.9	22.9
		-11.6	-12.7	-13.8	-15.1	-16.5	-19.5	-22.3	-25.7
	14' x 14'	9.8	10.7	11.7	12.8	14.0	16.5	18.9	21.8
		-11.0	-12.0	-13.0	-14.3	-15.6	-18.4	-21.0	-24.2
25 Feet	8' x 8'	11.8	12.9	14.1	15.4	16.8	19.9	22.7	26.2
		-13.4	-14.6	-15.9	-17.5	-19.1	-22.5	-25.7	-29.7
	10' x 10'	11.5	12.5	13.6	14.9	16.3	19.2	22.0	25.4
		-12.9	-14.0	-15.3	-16.7	-18.3	-21.6	-24.7	-28.4
	14' x 14'	10.9	11.9	12.9	14.2	15.5	18.2	20.9	24.1
		-12.1	-13.2	-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 2007 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:

- 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)
- Test durations for each test direction shall be as follows:
  - 10 seconds at design pressure.
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Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and should not be reduced by the load combination factors in the 2010 Florida Building Code, Building Volume, Equation 16-14.
- 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 7-10.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

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**COMMERCIAL DOOR WIND LOAD GUIDE**

**BASED ON THE 2010 FLORIDA BUILDING CODE, EXPOSURE C, 156-200 MPH, ULTIMATE DESIGN WIND SPEED**

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V <sub>ult</sub> ) (from maps in Figures 1609A B and C in the 2010 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'	25.7	27.1	28.8	30.7	32.3	34.0	36.4	38.0	42.3
		-29.1	-30.6	-32.6	-34.7	-36.6	-38.5	-41.2	-43.1	-47.9
	10' x 10'	24.9	26.2	27.9	29.7	31.3	32.9	35.2	36.8	40.9
		-27.9	-29.4	-31.3	-33.3	-35.1	-36.9	-39.5	-41.3	-45.9
	14' x 14'	23.6	24.9	26.5	28.2	29.7	31.3	33.5	35.0	38.9
		-26.3	-27.7	-29.5	-31.4	-33.1	-34.8	-37.2	-38.9	-43.3
25 Feet	8' x 8'	28.4	29.9	31.9	33.9	35.7	37.6	40.3	42.1	46.8
		-32.2	-33.9	-36.1	-38.4	-40.5	-42.6	-45.6	-47.6	-52.9
	10' x 10'	27.5	29.0	30.9	32.8	34.6	36.4	39.0	40.7	45.3
		-30.8	-32.5	-34.6	-36.8	-38.8	-40.8	-43.7	-45.7	-50.8
	14' x 14'	26.1	27.5	29.3	31.2	32.8	34.6	37.0	38.7	43.0
		-29.1	-30.6	-32.6	-34.7	-36.6	-38.5	-41.2	-43.0	-47.9
		121 MPH	124 MPH	128 MPH	132 MPH	136 MPH	139 MPH	144 MPH	147 MPH	155 MPH
<b>Equivalent Nominal Design Wind Speed</b> (from 2007 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:
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Notes:

- Design Wind Speeds above are three second peak-gust values
- Wind loads are based on Allowable Stress Design wind speeds and should not be reduced by the load combination factors in the 2010 Florida Building Code, Building Volume, Equation 16-14.
- 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 7-10.
- Garage doors evaluated as Components and Cladding.
- Installation details vary. Consult manufacturer's instructions.

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**BASED ON THE 2010 FLORIDA BUILDING CODE, EXPOSURE D, 100-150 MPH, ULTIMATE DESIGN WIND SPEED**

Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V <sub>ult</sub> ) (from maps in Figures 1609A B and C in the 2010 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	14.2	15.4	16.9	18.5	21.8	24.9	28.7
		-14.7	-16.0	-17.4	-19.1	-20.9	-24.6	-28.2	-32.5
	10' x 10'	12.6	13.7	14.9	16.4	17.9	21.1	24.1	27.8
		-14.1	-15.4	-16.7	-18.3	-20.0	-23.6	-27.0	-31.2
	14' x 14'	11.9	13.0	14.2	15.5	17.0	20.0	22.9	26.4
		-13.3	-14.5	-15.8	-17.3	-18.9	-22.3	-25.5	-29.4
25 Feet	8' x 8'	14.1	15.4	16.8	18.4	20.1	23.7	27.1	31.2
		-16.0	-17.4	-19.0	-20.8	-22.7	-26.8	-30.6	-35.3
	10' x 10'	13.7	14.9	16.2	17.8	19.4	22.9	26.2	30.2
		-15.3	-16.7	-18.2	-19.9	-21.8	-25.7	-29.4	-33.9
	14' x 14'	13.0	14.2	15.4	16.9	18.4	21.7	24.9	28.7
		-14.4	-15.8	-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
		<b>Equivalent Nominal Design Wind Speed</b> (from 2007 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.
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Notes:

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- 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 7-10.
- Garage doors evaluated as Components and Cladding.
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Mean Roof Height	Door Size	Ultimate Design Wind Speed, MPH (V <sub>ult</sub> ) (from maps in Figures 1609A B and C in the 2010 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'	31.1	32.8	35.0	37.2	39.2	41.2	44.1	46.1	51.3
		-35.2	-37.1	-39.6	-42.1	-44.3	-46.7	-49.9	-52.2	-58.0
	10' x 10'	30.1	31.7	33.8	36.0	37.9	39.9	42.7	44.6	49.6
		-33.8	-35.6	-37.9	-40.4	-42.5	-44.7	-47.9	-50.0	-55.6
	14' x 14'	28.6	30.1	32.1	34.2	36.0	37.9	40.5	42.4	47.1
		-31.9	-33.6	-35.8	-38.0	-40.1	-42.2	-45.1	-47.2	-52.4
25 Feet	8' x 8'	33.9	35.7	38.0	40.4	42.6	44.8	48.0	50.1	55.7
		-38.3	-40.4	-43.0	-45.7	-48.2	-50.7	-54.3	-56.7	-63.1
	10' x 10'	32.8	34.5	36.8	39.1	41.2	43.4	46.4	48.5	53.9
		-36.7	-38.7	-41.3	-43.9	-46.2	-48.7	-52.1	-54.4	-60.5
	14' x 14'	31.1	32.8	34.9	37.1	39.1	41.2	44.1	46.1	51.2
		-34.6	-36.5	-38.9	-41.4	-43.6	-45.9	-49.1	-51.3	-57.0
		121 MPH	124 MPH	128 MPH	132 MPH	136 MPH	139 MPH	144 MPH	147 MPH	155 MPH
<b>Equivalent Nominal Design Wind Speed</b> (from 2007 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.
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Notes:

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- Wind loads are based on Allowable Stress Design wind speeds and should not be reduced by the load combination factors in the 2010 Florida Building Code, Building Volume, Equation 16-14.
- 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 7-10.
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- Installation details vary. Consult manufacturer's instructions.

**For more information, contact DASMA, 1300 Sumner Avenue, Cleveland OH 44115-2851  
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**Note: Technical Data Sheets are information tools only and should not be used as substitutes for instructions from individual manufacturers. Always consult with individual manufacturers for specific recommendations for their products and check the applicable local regulations.**

This Technical Data Sheet was prepared by the members of DASMA's Commercial & Residential Garage Door Division Technical Committee. DASMA is a trade association comprising manufacturers of rolling doors, fire doors, grilles, counter shutters, sheet doors, and related products; upward-acting residential and commercial garage doors; operating devices for garage doors and gates, sensing devices, and electronic remote controls for garage doors and gate operators; as well as companies that manufacture or supply either raw materials or significant components used in the manufacture and installation of the Active Members' products.