COMMERCIAL & RESIDENTIAL GARAGE DOOR DIVISION

DASMA TECHNICAL DATA SHEET

#155h

Door & Access Systems Manufacturers Association International

1300 Sumner Avenue
Cleveland, Ohio 44115-2851
Phone: 216-241-7333 • Fax: 216-241-0105
E-mail: dasma@dasma.com

DASMA Garage Door and Commercial Door Wind Load Guide
Based on the North Carolina State Residential Building Code

DASMA (the Door & Access Systems Manufacturers Association) has created a ***GARAGE DOOR WIND LOAD GUIDE*** based on the North Carolina State Residential 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 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.

The DASMA members believe the ***DASMA GARAGE DOOR WIND LOAD GUIDE*** will improve understanding of the issues related to garage doors and wind loads. DASMA continues to monitor developments regarding wind loads and the building codes in general, and continues to develop solutions to problems which affect the garage door industry. Please contact DASMA for any questions or comments.

[1] Loads for the Garage Door Wind Load Guide are based on ASCE 7-16

GARAGE DOOR WIND LOAD GUIDE
North Carolina Residential State Building Code

Mean Roof Height	Door Size	100 MPH	110 MPH	120 MPH	130 MPH	140 MPH	150 MPH
15 Feet Single Story	Single 9' x 7'	**9.6** -9.6	**9.6** -10.6	**11.1** -12.6	**13.1** -14.8	**15.2** -17.1	**17.4** -19.7
	Double 16' x 7'	**9.6** -9.6	**9.6** -10.0	**10.7** -11.9	**12.5** -13.9	**14.5** -16.2	**16.7** -18.6
25 Feet Double Story	Single 9' x 7'	**9.6** -10.1	**10.8** -12.2	**12.9** -14.6	**15.1** -17.1	**17.5** -19.8	**20.1** -22.8
	Double 16' x 7'	**9.6** -9.6	**10.4** -12.6	**12.3** -13.8	**14.5** -16.2	**16.8** -18.7	**19.3** -21.5
35 Feet Triple Story	Single 9' x 7'	**9.9** -11.2	**12.0** -13.5	**14.3** -16.1	**16.7** -18.9	**19.4** -21.9	**22.3** -25.2
	Double 16' x 7'	**9.6** -10.6	**11.5** -12.8	**13.7** -15.2	**16.0** -17.9	**18.6** -20.7	**21.3** -23.8

Design pressures above are in Pounds per Square Foot (PSF). Values between MPH columns may be interpolated.

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:

- Basic Wind Speeds above are three second peak gust values
- Negative pressures assume door has 2 feet of width in building's end zone.
- For 15' mean roof height, multiply by 1.49 for Exposure C values, and by 1.81 to get Exposure D values
- For 35' mean roof height, multiply by 1.38 for Exposure C values, and by 1.63 to get Exposure D values
- Values include a 0.6 multiplication factor to convert to ASD based wind pressures, with a minimum wind pressure value of 9.6 PSF
- 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, Exposure B.
- For 25' mean roof height, multiply by 1.42 for Exposure C values, and by 1.70 to get Exposure D values
- Garage doors evaluated as attached to enclosed buildings.
- 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 Fax (216) 241-0105 URL: www.dasma.com