Wind Load Definitions

MRH: Mean Roof Height, The height above grade level of the midpoint of the roof. Mean roof height is calculated by averaging the eave and ridge heights, and is used in the design pressure calculations.

NOA: Notice of Acceptance, Issued by Miami-Dade County given to product that have been tested and approved for use in the High Velocity Hurricane Zone.

HVHZ: High Velocity Hurricane Zone, defined by the Florida Building Code as Dade and Broward counties in south Florida.

DASMA: Door Access Systems Manufactures Association is the Trade Association for the garage door industry. They create test standards specifically for garage doors and work with code bodies to get them put into the building codes.

ANSI/DASMA 108: Test standard for testing garage doors to loads generated by the wind. This test is known as the uniform static air pressure test.

ANSI/DASMA 115: Test standard for testing garage doors to loads generated by flying debris typically found in high wind events. This test is known as the large missile impact test.

ASCE 7: American Society of Civil Engineers, is the basis for wind load calculations used in most building codes.

Design Pressure: The measurement of resistance in both positive and negative directions that a door system must withstand. Design pressures are expressed in pounds per square foot (PSF) and are expressed in both positive and negative values. Also known as design load. Design load is always 1-1/2 times less than test load.

Test Pressure: The actual tested wind pressure resistance that a door system will withstand during laboratory testing. Most building officials usually require that the test pressure be equal to 150% of the design pressure. Also known as the test load or ultimate load. Test load is always 1-1/2 times greater than the design pressure.

Wind Velocity: The actual measured speed of airflow during a wind event; usually expresses in MPH. Wind velocity is typically measured at 33 feet (10 meters) above ground level at airports and similar open country locations. Also known as Basic Wind Speed and is used in the design pressure calculations.

Exposure Category: This defines the level of protection from the wind and is used to determine the actual wind pressure on a garage door. Categories range from A to D with A being the most protected and D being the least protected. Exposure B is used in most situations (urban, suburban, and wooded areas) and Exposure C is generally used in open land with few obstructions or within 1500 feet of the coastline. The exposure category is used in the design load pressure calculations. Exposure D within 600 feet the shoreline or 20 times the height of the building, whichever is greater.

Effective Wind Area: The effective wind area for garage door is the area of the door, for example a 16x7 door has an effective area of 112 square feet. The area of the door is used in the design pressure calculations.