

Understanding “operational” wind load

By now, most members of the vehicle access door industry are familiar with wind-load requirements. They began seeping into the marketplace in the wake of Hurricane Andrew (1992) and have been promulgated nationwide for some time now.

The lesser-known and increasingly popular specification called “operational wind load” is the focus of this installment of the Tech Corner. Evidence suggests that the operational wind-load requirement is being requested in the marketplace more often now than ever before. Therefore, it is beneficial for industry professionals to better understand the subject.

Q: Are you telling me there are different types of wind load?

This article does not address types of wind load, but rather types of wind-load *requirements*. There are the very common and well-known design *wind pressure requirements* and the less-well-known but increasingly important *operational wind-load requirements*.

Q: What is the difference?

Design wind pressure is the pressure a door must withstand while in the closed position. Operational wind load is the pressure a door must withstand during its operation cycle — while it is opening and closing. Other terms for this concept include operable wind load and dynamic wind load.

Q: What is the reason for the two different types of requirements?

Design wind pressure deals with product and building integrity during windstorms. If the door is unable to hold the pressure, it may be destroyed and lead to further building damage. Operational wind pressure can also be important, but for a different reason. If a vehicle needs to enter or exit through an opening while the wind is blowing strong, a door with a good capability for operational wind load is necessary.

Q: Are there any building code requirements for operational wind load?

Operational wind load is not currently directly addressed in the model building codes. The requirements for operational wind load that are becoming more popular in the marketplace usually derive from specifications published by industry stakeholders.



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Unlike design wind load, there is currently no industry standard testing method to evaluate a door's ability to operate under wind load.

Q: Is a design wind pressure requirement the same as an operational wind-load requirement? [i.e., is the door required to hold the same pressure in both circumstances?]

No, not usually. Design wind pressure requirements tend to be very high, corresponding to Category 2 or higher hurricanes. It would not typically be reasonable or safe to operate a door under those conditions.

Q: How do doors get rated for wind load?

Design wind pressure ratings are determined by industry standard tests such as ANSI/DASMA 108 and ANSI/DASMA 115. Unlike design wind load, there is currently no industry standard testing method to evaluate a door's ability to operate under wind load. Several manufacturers utilize their own methods. Manufacturers who advertise and provide such ratings can be contacted directly for details.

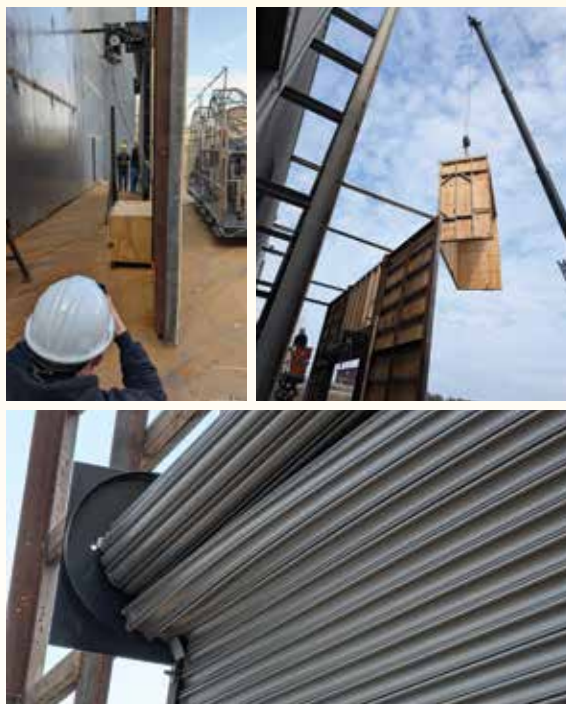
Q: Is the industry taking any action on operational wind load?

DASMA's Rolling Door Division Research Committee has accepted the challenge. Their goal is to establish a standard test method for operational wind load initially applicable to rolling doors but eventually adaptable for all types of vehicle access doors. Initial testing was completed in March

at Intertek in York, Pa. Look for more information in a coming issue of D+AS Magazine.

Contact us

If you have questions about this topic or suggestions for future content, please email Dave Monsour at dasma@dasma.com. ■



Photos from operational wind load testing conducted at Intertek in York, Pa. Several DASMA members participated in the testing.