



DASMA
Door & Access Systems
Manufacturers Association
International

HIGH PERFORMANCE DOOR DIVISION

TECHNICAL DATA SHEET

#458

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High Speed Doors and Egress

Introduction

While no high speed door meets the strict definition of egress, this Technical Data Sheet is intended to explain how high speed doors can be used as a means of egress by describing options, code guidance, and specification guidance. Doors used in these applications must be approved by the authority having jurisdiction.

High Speed Door Defined

A high speed door is a non-swinging door with a minimum opening rate of 32 inches per second, a minimum closing rate of 24 inches per second, and a means to automatically reclose the door.

High Speed Door Construction

High speed doors are typically non-fire rated, and thus should be used only in walls that are also non-fire rated. High speed door panels and curtains can be made from rubber, fabric, vinyl, composites, aluminum, or steel.

Egress Defined

The International Building Code (IBC) defines egress as "a continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way". NFPA 101, *Life Safety Code*, defines egress in a similar intent, as "a continuous and unobstructed way of travel from any point in a building or structure to a public way." Both the IBC and NFPA 101 go on to describe a means of egress as consisting of three separate and distinct parts: the exit access, the exit, and the exit discharge.

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This Technical Data Sheet was prepared by the members of DASMA's High Performance Door Division. DASMA is a trade association comprising manufacturers of high performance 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.

Situations Requiring Egress

Generally, situations requiring egress are of an emergency nature where occupants need to evacuate a building. Emergencies have traditionally been associated with fire, but can be extended to instances where hazardous conditions have arisen jeopardizing the health, safety and/or welfare of building occupants.

Occupancies Using High Speed Doors as Egress Components

High speed doors are most commonly used in certain businesses, factories, and institutional, mercantile and storage buildings, where environmental separation, energy efficiency, and/or security needs are apparent. They are not generally used in public assembly, educational, high-hazard, residential, and utility/miscellaneous occupancies. When used as a component of egress, high speed doors may at times accommodate motorized equipment and traffic in addition to pedestrian usage.

High Speed Door Egress Options

DASMA recommends that at least one of the following options be employed:

1. Manual operation through door counterbalancing. The door should be openable by a simple method from either side of the opening without special knowledge or effort. The force required to operate the door should not exceed 30 pounds (133 N) to set the door in motion and 15 pounds (67 N) to close or open the door to the minimum required height and width for egress. Manual operation can include chain hoist, crank, or gripping points.
2. Break out panels. The door panels should be capable of being broken out manually in the event of power failure by a simple method from either side without special knowledge or effort. The force required to break out the door panels should not exceed 30 pounds (133 N), and the force required to push open the door panels to the minimum height and width for each egress opening should not exceed 15 pounds (67 N).
3. Backup power supply. The door assembly should have an integrated standby power supply, shall be electrically supervised, should open to a minimum height of 80 inches (2.03 m) and a minimum width of 32 inches (813 mm) within 10 seconds after activation of the operating device, and should stay open until full power is resumed. A backup power supply is subject to approval by the authority having jurisdiction as a standalone option.

The parameters above are found in requirements in IBC Section 1010.1.4.3 which is titled and intended for "special purpose horizontal sliding, accordion or folding doors".

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International Building Code (IBC) Content

The IBC does not address high speed doors. To demonstrate compliance with the IBC, code content that could be used by interpretation and application would need to be cited. IBC Section 1010.1.2 Exception 1 allows for non-pivoting, non-side hinged (which would include rolling, folding and sliding) high speed doors used in a means of egress in private garages, office areas, and factory and storage areas, with an occupant load of 10 or less. Otherwise, content most likely to be used is found in Section 1010.1.4.3 which is titled and intended for "special purpose horizontal sliding, accordion or folding doors".

A code official using the IBC would review the data and information with respect to the applicable code content. If Section 1010.1.2 Exception 1 is not applicable, the code official could invoke Section 104.11, titled "Alternative materials, design and methods of construction and equipment". A high speed door would then likely be classified as an "alternative design". The key provision in Section 104.11 reads that approval can be obtained when the building official finds that the design complies with the intent of the provisions of the code, and for the purpose intended, that the design is not less than the equivalent prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety. For high speed doors used as a component of egress, the equivalency would likely be measured in terms of quality, effectiveness, durability and safety. When the occupancy load exceeds 10, the use of a high speed door as a component of a means of egress will be at the discretion of the authority having jurisdiction.

NFPA 101 Content

NFPA 101 also does not address high speed doors. A code official using NFPA 101 would review high speed door data and information with respect to the content of the standard, and invoke Section 1.4 title "Equivalency". In addition to Section 1.4 content, subsections 1.4.1 Technical Documentation, 1.4.2 Approval and 1.4.3 Equivalent Compliance require submitting technical documentation to demonstrate equivalency and establishing the intended purpose in order to obtain approval as an equivalent system, method or device to be recognized as compliant. A high speed door would likely be classified as a "device". Equivalent or superior quality, strength, effectiveness, durability and safety would be required. As with the IBC, the equivalency would likely be measured in terms of quality, effectiveness, durability and safety, and approval by the authority having jurisdiction would likely be a function of occupant load.

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Guidelines for One Egress Option Selected

If one of the three egress options is included in a high speed door, reasoning for selecting the option would be needed in terms of occupancy type, space usage, door type and material, and doorway design in the occupied space. The high speed door would also need to demonstrate that it is not fire-rated, and is being installed in a non-fire rated wall, to be exempt from the rating related requirements in both the IBC and NFPA 101.

Guidance Involving High Speed Door Use in Egress

For a high speed door used as an egress component, architects, engineers, designers and building owners should do the following:

- Confirm that a high speed door is desired at the location
- Consider the users of the door from within the building (private versus public) and provide necessary signage
- Ensure that the door is readily distinguishable as a usable door
- Have the door include all relevant entrapment protection devices
- Distinguish the type(s) of egress design provided

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