

Vestibule Requirements for Commercial Buildings Transcript

Hi everyone, I'm Pam Cole and welcome to this episode on vestibules sponsored by the US Department of Energy's Building Energy Codes Program. We will be bringing you the inside scoop on the national model energy codes, the latest news on building efficiency practices, and tips on making compliance easier while saving money and energy. Today, we'll be taking a look at vestibules, when they are required, how they work, and how they can reduce your energy bill.

The entrance behind me is called a vestibule, which is defined as a completely enclosed, unconditioned space, that separates the inside entrance of a building from the exterior. What an unconditioned space means is a space that is not heated and/or cooled. Now the primary intent behind the requirements of a vestibule is to reduce infiltration for areas that have doors that have a high volume of pedestrian traffic. These doors are typically used by the general public to enter public spaces, unlike doors that are classified or employee use only. Vestibules can reduce infiltration losses and gains from wind and stack effect by creating an airlock entrance. The term infiltration means air leaking into and out of a building that can be a major contributor to heat loss and gains.

Vestibules must be designed so that the doors leading into and out of the vestibule do not open at the same time. This allows a person to enter the vestibule and the doors shut behind them. The person then can exit the vestibule. This creates an airlock entry reducing infiltration.

So when is a vestibule required? Unless any exemptions apply, it's on primary entrance doors leading into a space that is greater than or equal to 3,000 square feet. Now how do you determine the 3,000 square feet area? Basically you're taking the entrance into a building and calculating the floor area from floor to ceiling partitions and if there are corridors or hallways that lead off of the space that you're entering, if there's not an enclosed door that separates those areas then you would include that floor area as well. Now some possible exemptions that apply to that are doors not intended as a building entrance such as mechanical or equipment room, other doors that lead from a guest room, dwelling, or sleeping unit, and doors that are directly opening to a space that is less than 3,000 square feet. And then also, you also have doors that are for vehicular movement, material handling, or for employee use only.

So how is compliance determined during plan review and final inspection? Verify that doors which separate the conditioned space from the exterior and that lead into spaces that are greater than or equal to 3,000 square feet contain a vestibule. Also, you must verify that those doors leading into and out of the vestibule do not open at the same time, and also meet the requirements of the Americans with Disabilities Act Accessibility Guidelines for buildings and facilities. You must also determine and verify that the building components, that separate the conditioned part of the building from the vestibule, meet the building thermal envelope requirements that would be applicable within the

project's location. And then lastly, if the building is exempt from having a vestibule installed on that building, that you truly are determining that the space from the entrance to the building is less than 3,000 square feet.

Vestibules provide a means for businesses to save energy and decrease their energy bills. Managers can maintain control of the indoor climate, maximizing customer and worker comfort. Speaking of which, it's a little warm out here, so I'm going to head inside. I hope you enjoyed this episode, and for more information, go check out our easy to use compliance tools for residential and commercial buildings, and send us feedback or podcast requests at energycodes.gov. I'm Pam Cole, and on behalf of DOE's Building Energy Codes Program, thanks for watching.