

Technical Bulletin: Blower Door Testing Under Windy Conditions

Residential New Construction Program



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Severe wind can be a difficult challenge to overcome when performing accurate infiltration tests. In fact, conducting infiltration tests on days with wind speeds exceeding 20mph is not recommended. Read on for tips on adjusting to moderate levels of weather interference (20 mph of wind or less) when conducting blower door tests.

To minimize the effect wind or rain can have on the pressure reading from the outside reference tube, try guarding the end of the tube. This can be achieved by placing the end of the tube in a plastic bottle or a sponge. An example of this can be seen in the picture on the right. Tape may be required to secure the object to the tube. It is important to ensure the tube is not obstructed or pinched and the bottle is not closed so that air can freely equalize inside. Alternatively, placing the end of the blower door tube in the manometer bag serves the same purpose and can be an easy option when a bottle or sponge is not readily available.



Placing the reference tube on the sheltered side of the home can often minimize the impacts of wind. For example, if the wind is blowing toward the front door, conducting the blower at the back of the house can lessen the impact of the wind. If the garage has an exterior side door, placing the blower door at the interior/garage door lessens the impacts of wind. In this situation, leave the large garage door closed and keep the exterior side garage door open.

In addition to protecting your tube from the elements, it is critical to baseline your manometer for at least 10 seconds before every blower door test. The length of the baseline should be extended on windy days until the baseline range has steadied. This ensures a more accurate reading. However, a single point test cannot be performed if the baseline range is >10.0 Pa.

Lastly, it is important to conduct infiltration tests when the wind is at the lowest possible level. Make use of reference points outside such as a flag or a pile of leaves. This can help easily determine the intensity of the wind activity.