



## TECHNICAL BULLETIN: BLOWER DOOR TESTING UNDER WINDY CONDITIONS

Of all the environmental effects, wind probably has the largest impact on blower door testing. 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 20 MPH is not recommended. Minimize the effect that wind can have on the pressure reading from the outside reference tube with the following tips:

**Guard the end of the tube:** This can be achieved by placing the end of the tube in anything from a plastic bottle to a sponge. 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.

**Place the reference tube on the sheltered side of the home** this strategy can often minimize the impacts of wind. If the wind is blowing toward the front door, conducting the test in 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.

**Baseline your manometer for at least 30 seconds:** capture a baseline before every blower door test. The length of the baseline should be extended on windy days until the baseline range has steadied. A baseline reading  $< 2\text{pa}$  ensures a more accurate reading.

**Ensure reference tube is at the lowest point** Wind velocity increases the higher from the ground. Place the tube on the ground and cover with a piece of plywood (without pinching).

**Conduct infiltration tests during lowest wind:** 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.

*Reference your blower door and manometer user manual for additional tips and tricks, including the T-connection technique.*

### **RetroTec:**

[www.retrotec.com/mwdownloads/download/link/id/6/disposition/inline/](http://www.retrotec.com/mwdownloads/download/link/id/6/disposition/inline/)

### **Energy Conservatory:**

[www.energyconservatory.com/wp-content/uploads/2017/08/Blower-Door-Manual.pdf](http://www.energyconservatory.com/wp-content/uploads/2017/08/Blower-Door-Manual.pdf)

Thank you for your continued support of the DTE and Consumers Energy New Home Construction Programs. If you have any questions, please contact your Program Manager:

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