

Drain-Waste-Vent (DWV) System Smoke Test Procedure

These are general recommendations for conducting a Smoke Test on residential and commercial building plumbing. Testing must be conducted with a Smoke Blower designed specifically for Smoke Testing or the test will be ineffective. Safe operation of Superior Signal products is the responsibility of the user. Smoke testing should only be performed by trained professionals, in accordance with all instructions, warnings and guidelines.

Preparation

1. Notify the building owner, occupants, and anyone who's plumbing is connected to the system being tested. Buildings should generally be unoccupied while conducting a Smoke Test, except for those involved in testing.
2. Identify appropriate access point, preferably outside or in an unfinished area. Clean-outs are ideal.
3. Consider using pipe plug(s) to prevent smoke from traveling downstream or to isolate test to a specific area.
4. Pour water in all seldom used drains and traps.
5. Disable central-station Fire Alarm systems in the test building, as smoke may activate smoke alarms.
6. Optional (usually not necessary): If multiple vent stacks exist, one or more vents may be partially restricted, but never fully restrict any vents – as smoke must flow freely through the entire system.

Blower Setup

7. Place Blower on level ground, attach and secure hose.
8. Insert hose into cleanout or other access point, using a rag or tape as required to achieve a good seal.
9. Connect Blower power source.
10. Select proper Smoke Candle (1A for small – medium size buildings, 2B for medium – large size buildings).
11. Wedge Smoke Candle in smoke candle tray. Most smoke emits from the smoke port on the side of the candle. Angle port upward toward Blower intake. Never put a Smoke Candle directly into any sewer pipe.

Conducting Test

12. Optional: Pre-locate assistant(s) inside building.
13. Turn on Blower to establish a draft, verify air is flowing freely, and blower intake has good draw.
14. Light the Smoke Candle in the tray.
15. Visually verify smoke is coming out of all vent stacks. This is a good indication that all plumbing between the Blower and each vent is being tested. No smoke coming from the vent indicates a restriction in the system or that the smoke is traveling in an unintended direction.
16. Perform inspection – any visible smoke indicates a fault in the plumbing. Sometimes a second Smoke Candle is required to pinpoint the exact location of the fault.
17. Smoke is non-toxic. Residual smoke in the building may be dispersed by opening doors / windows.
18. Wait for Smoke Candle to fully cool, and dispose in accordance with local regulations (biodegradable).

Tips to minimize smoke backing up into the room:

1. Be sure the system is vented – if multiple vents you may want to partially restrict some or all, but do not cap off any vents. There should be the equivalent net venting of at least one fully open vent.
2. Make sure the hose is well connected to the Blower and the plumbing.
3. If in a “tight” building or room, ensure there is an adequate source of unrestricted make-up air into the room.
4. Turn on Blower and verify good airflow before lighting Smoke Candle.
5. **Use the minimum smoke that will do the job** – we recommend only 1A or 2B Candles with any 5E Blower. Do not use larger Smoke Candles (such as 3C) as this is excessive and inappropriate for this application.
6. Orient the smoke candle so that “smoke issues here” is angled upwards toward the intake.
7. If everything is correct, the amount of smoke in the room after the test should be similar to what one might expect from smoking cigarettes in the room. If this is not acceptable, you should configure your smoke test to position the Blower outside the building.

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