

Once again, The Word invites you to travel into the dark realm of terms that are often misused in home inspection reports. The Word hopes you will find this trip informative and maybe a little entertaining.

The Word's term today is gas fireplace. The Word finds this term interesting because a gas fireplace is not a real fireplace. Fireplaces burn solid fuel, usually wood. Gas fireplaces burn only gas. There are also hybrids, such as a fireplace equipped with gas logs. The differences between a fireplace and a gas fireplace are important because venting and clearances to combustible materials requirements differ depending on the system.

A fireplace may be a traditional site-built masonry system or it may be a factory-built system. It may currently burn wood, or it may currently contain gas logs. Regardless of its current fuel-burning configuration, a system intended to burn solid fuel is a fireplace. If it is not designed to burn solid fuel, it is not a fireplace and you should not call it one.

The Word prefers the term decorative gas appliance (DGA) or the term decorative gas fireplace to describe a factory-built, gas-only fireplace because these terms distinguish this system from a solid-fuel burning fireplace and from a fireplace equipped with gas logs. The term gas fireplace is, however, acceptable and is used in the International Residential Code (IRC).

There are two types of DGA, vented and unvented. Both types are allowed by the IRC, but unvented DGAs have issues about which you should be aware.

Unvented DGAs are often improperly maintained and used, causing significant adverse moisture issues and air

quality issues. Unvented DGAs can produce enough water vapor to cause mold and moisture problems in wall cavities, attics and other places. They can also produce enough carbon monoxide to make people sick or worse. These problems are most likely when the unvented



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DGA is operated without ventilation air, in a room that is too small, or for longer than the recommended time.

Some local building departments no longer allow unvented DGAs. In addition, some weatherization programs require removal of unvented DGAs (and

unvented room heaters) when homes are more tightly air-sealed during energy efficiency retrofit work. You should warn clients to follow manufacturer's maintenance and operating instructions when using an unvented DGA. These instructions often include providing ventilation by opening a nearby window.

Many vented DGAs use a Type B vent, but the vent installation rules may be different from standard Type B vent rules. Common DGA Type B venting rules include:

- 1) minimum clearance between the vent and combustible materials (usually 1 inch),
- 2) maximum offset from vertical (from 45° to 60°),
- 3) minimum and maximum height of the vent termination above the DGA (about 12 feet minimum and 50 feet maximum from bottom of DGA),
- 4) maximum length of any offset vent run (about 6 inches horizontal for every 12 inches vertical height),
- 5) maximum number of elbows (about four 90°),
- 6) termination height above roof and location of the vent on the roof (minimum 12 inches above a $\leq 6/12$ roof and vent located as high on the roof as possible).

Don't forget to look for an insulation shield around vents that pass through insulated assemblies (a recent requirement) and for fire stops at the usual places. Refer to manufacturer's installation instructions for specific DGA venting requirements.

An increasingly popular vented DGA is the direct-vented type. The advantages of this DGA include the lack of a vent

chase and the fact that combustion air is supplied to the DGA from around the vent pipe. Drawing combustion air from outside makes a DGA more energy efficient and less prone to back-drafting caused by negative pressure near the DGA. Vent installation and termination requirements for direct-vented DGAs are similar to other direct-vented gas appliances, but verify requirements using manufacturer's installation instructions.

Remember that DGAs and their vent systems are listed products and are designed to work together. A DGA using a vent that is not approved by the DGA manufacturer and a DGA that is vented into a masonry chimney may be unsafe. A DGA that terminates in a decorative shroud may also be unsafe unless the shroud complies with manufacturer's instructions. Verify manufacturer's installation instructions or call for expert evaluation in any of these situations.

DGAs, like other gas appliances, are subject to back-drafting, particularly when located near sources of negative pressure such as clothes dryers, large kitchen exhaust fans, return air boots and other fuel-fired appliances. You should educate your client about the potential risk of back-drafting if any negative pressure sources are in the same room, or a nearby room, as the DGA.

Clearances between a DGA and combustible materials vary by manufacturer and model, with typical clearance requirements between zero and ½ inch to the back and sides of the cabinet. Clearances at the front and sides of the DGA opening vary by manufacturer and are often around 1 inch to mantel legs and 3 inches to perpendicular side walls.

Clearances above a DGA also vary by manufacturer and model, and include clearance to wood mantels and to dry-wall-covered ceilings and projections. A typical clearance requirement above a

DGA is about 5 inches to a 3-inch wide projection, and adding ¾-inch vertical clearance for every 1-inch increase in horizontal projection. For example, a 6-inch wide mantel might require about 7-¾ inches between the bottom of the mantel and the top of the DGA draft hood.

A DGA can provide a warm, inviting atmosphere on a cold winter night. Just make sure you help keep your client safe during any romantic activities triggered by a DGA.

Memo to the fireplace Gods and other authorities: The Word does not reside on Mt. Olympus and welcomes other viewpoints. Send your lightning bolts or e-mails to inspectorbruce@cox.net. ■



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