Ask Jon Eakes

What does 'spillage susceptible' mean?

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Although most people, even contractors, may have a hard time defining the new building code term 'spillage susceptible', it is a term that is critically important for the everyone's health.An appliance, be it gas, oil, propane or wood, is spillage susceptible if it is possible for negative pressure in the house to cause flue gas to flow into the house rather than up the chimney. Just a little trouble at start-up, as is common with wood fireplaces, is called spillage. Clearly running backwards is called backdrafting. An appliance is not spillage susceptible if there is no connection between the fire chamber and the air inside the house, as is the case with sealed combustion units that draw air directly from outdoors into the combustion chamber and back out again.When there are 'spillage susceptible' appliances in the house, special provisions of most building codes will kick in, requiring that if exhaust fans in the house, including clothes dryers, are powerful enough to cause spillage or reversal of exhaust flow in a chimney, then there must be special provisions for providing combustion air to the appliance. Here is where the debate begins as code officials attempt to define just where are the border lines between spillage susceptible appliances and exhaust fans. The hot water tank probably has the poorest draft of all appliances in the house and can spill or be reversed rather easily, but so can a burned out simmering fire in the wood stove. If the house is terribly leaky, the fan has less effect on the chimney. If you have a very small house, and very tight modern construction, any exhaust fan will have more of a tendency to backdraft a chimney. Hence the difficulty in defining the problem.These days, the general thinking is that any fan that can create a negative 5 Pascal pressure condition in the house can create a health hazard with a spillage susceptible appliance. Surprisingly enough, in many houses, a good bathroom fan can do that. Hence the growing standardisation of "combustion air supplies"to furnace rooms and the growing popularity of sealed combustion units both for furnaces and stoves. It is also one of the reasons that more and more exhaust fans are built into 'air change' or "HRV" ventilation systems that balance the exhaust air with a fan bringing in fresh air. The balanced ventilation system does not create negative pressures in the house, hence keeping ventilation neutral with respect to chimneys.The whole field of combustion spillage is an evolving debate and I will try to keep you up to date. Check back here occasionally.

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