

Minnesota Energy Tips: Fireplace efficiency

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This weekend as you huddle around the fireplace to escape the spring chill, remember the fireplace likely loses more heat than it gives off. Warm air in a home is sucked up the chimney and is replaced by cold air leaking into the house. Especially as the fire dies down, more heat is drawn up the chimney than is created by the fire—and the reduced rate of airflow can lead to backdrafting of flue gases and smoke into the living space.

The following tips will improve the operation and safety of your fireplace and will reduce your energy losses:

1. **Seal the flue damper.** To test the damper's seal, close the flue, light a small piece of paper, and watch the smoke. If the smoke quickly goes up the flue, there is an air leak. Seal around the damper assembly with refractory cement, but don't seal the damper closed.
2. **Install tight-fitting glass doors or an airtight fireplace insert unit.** Controlling the airflow in your fireplace improves combustion efficiency by 10 to 20 percent and reduces air leaks up the chimney.
3. **Install an inflatable "chimney balloon" in seldom-used fireplaces.** A properly installed balloon will significantly reduce heat loss through the flue.
4. **Ensure proper operation of fresh air supply.** Many fireplaces and stoves have a source of fresh air to aid in combustion; in fact, it is required for most new installations to prevent backdrafting and poor performance of furnaces, water heaters, and exhaust fans. Fresh air supplies should have a well-sealed damper to prevent air leakage when not in use.
5. **Caulk or foam the joint where a brick or stone chimney meets the wall or ceiling** to prevent unwanted air flow.

For more information on fireplace efficiency, check out page 14 of the Division of Energy Resources' "Home Envelope" energy guide at www.energy.mn.gov .