

UI Extension Forestry Information Series

Fireplace Safety

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If constructed properly, fireplaces will perform safely and dependably. Improperly designed or constructed fireplaces can be both a nuisance and a safety hazard. Fireplaces, just like anything else, wear over a period of years and need to be maintained to extend their life. Here are checklists to follow for safely installing, maintaining and operating a fireplace.

Safe Installations.

- Check to determine that the fireplace complies with all building codes in your community, including special requirements such as earthquake construction.
- Be sure the flue is of adequate size, equal to at least 1/10th the area of the fireplace opening for chimneys more than 15 feet tall and at least 1/8th the area of the fireplace opening for chimneys less than 15 feet.
- Extend the chimney at least 3 feet above the highest point where it passes through the roof and at least 2 feet higher than any portion of the building within 10 feet. If the roof is flat, the chimney should be at least 3 feet above the roof.
- Be sure the flue is tight, well-built and well-maintained, with a smooth interior. Each fireplace needs its own flue, but more than one flue may be located in the same chimney.
- Extend the hearth in front of the fireplace at least 16 inches into the room and at least 8 inches on either side of the fireplace opening. Use brick, stone, tile, concrete or other non-combustible, heat-resistant material at least 4 inches thick.
- Support the chimney and fireplace properly. Wall-hung chimneys and fireplaces are apt to put undue weight on walls and partitions, cause the floors to settle and cause masonry flues to crack. A masonry

chimney should rest on its own foundation below the frost line.

- Install metal flashings to protect areas where the flue goes through the roof, and keep them in good repair.
- Install a metal spark arrester on top of the chimney to keep sparks from setting the house afire.
- Be sure prefabricated metal fireplaces and chimneys are approved by the Underwriters' Laboratories (UL) and installed as specified by the instructions. Free-standing fireplaces should be at least 3 feet from unprotected walls, drapes or other flammable materials. Use necessary wall protection to protect walls closer than 3 feet. Place a pad of brick or insulated fireproof material on the floor beneath the fireplace.
- Be sure that pipes connecting free-standing stoves and fireplaces to a chimney are at least No. 24 gauge steel, UL listed and installed in accordance with the listing. No pipe should be longer than 10 feet nor more than 75% of the vertical height of the chimney, whichever is less.
- For a modified fireplace (a firebox inserted into an existing fireplace), select one with a steel liner at least ¼ inch thick to decrease the likelihood of it eventually rusting out.
- Install bird and animal guards on the chimney. Squirrel and bird nests can stop up chimneys.
- If you choose a natural gas "log," follow instruction for installation and use. Look for the American Gas Association (AGA) label.

Maintenance for Safety.

- Keep the fireplace in good condition by repairing cracks in the flue lining, bricks and mortar.
- Keep the flue clear of soot, creosote and obstruc-

tions. Inspect the fireplace and chimney at least once a year to prevent creosote buildup.

Safe Operation.

- Equip the house with fire-warning devices.
- Install a type ABC fire extinguisher near the fireplace.
- Install a screen that completely covers the fireplace opening to keep sparks from flying out. Keep combustible materials such as carpets, furniture, paper, logs and kindling at least 3 feet away from the fireplace.
- Arrange andirons so logs can't roll out.
- Use only enough fuel to keep the fire at the desired temperature. Avoid "roaring" fires. They can start chimney fires from soot and creosote deposits in the flue.
- Do not use gasoline or other flammable liquids to kindle or rekindle a fire because the flammable vapors can explode. Never use fuels near a fire; explosive vapors can travel the length of a room.
- Keep the damper open while the fuel is burning to provide for efficient burning and to prevent accumulation of poisonous or explosive gases.
- Never burn Christmas tree greens. They cause many sparks when burning and can cause a chimney fire.
- Remove colored comic sections before rolling newspapers into logs. The colored inks contain lead and can produce toxic gases.
- Do not use coal, charcoal or polystyrene packaging in a fireplace unless the fireplace is designed to handle the excess heat and smoke which occurs when burning these materials.
- Do not treat artificial logs (made from sawdust and wax) the same way you treat real wood logs. Use

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