

# Fire Safety in Manufactured Homes

## About manufactured homes

Manufactured homes (sometimes called "mobile" homes) are transportable structures that are fixed to a chassis and specifically designed to be towed to a residential site. They are not the same as modular or prefabricated homes, which are factory-built and then towed in sections to be installed at a permanent location.

In order to distinguish between modular, prefabricated and recreational trailer homes, the following definition for a manufactured home from [NFPA 501, Standard on Manufactured Housing](#), applies:

A structure, transportable in one or more sections, which, in the traveling mode, is 8 body-ft (2.4 m) or more in width or 40 body-ft (12.2 m) or more in length or, when erected on site, is 320 ft<sup>2</sup> (29.7 m<sup>2</sup>) or more and which is built on a permanent chassis and designed to be used as a dwelling, with or without a permanent foundation, when connected to the required utilities, and includes plumbing, heating, air-conditioning, and electrical systems contained therein; except that such terms shall include any structure which meets all the requirements of this paragraph except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the regulatory agency.

The federal government regulates the construction of manufactured housing. Since 1976, manufactured homes have been required to comply with U.S. Department of Housing and Urban Development (HUD) manufactured housing construction and safety standards, which cover a wide range of safety requirements, including fire safety. Post-1976 manufactured homes bear a label certifying compliance with these standards.

The HUD standard has been enhanced over the years and the HUD "Final Rule" for smoke alarms in manufactured homes is largely based upon NFPA 501. Today, new construction of manufactured housing is required to contain, among other provisions:

- factory installed hard wired or 10 year battery source, interconnected smoke alarms with battery back-up (including alarms inside or immediately adjacent to all rooms designated as sleeping areas, top of the stairs and on the basement ceiling near the stairs)
- provisions for [special devices for hearing and visually impaired persons](#).

NFPA's national fire data indicate that manufactured homes built to HUD standards (post-1976 construction) have a much lower risk of death and a significantly reduced risk of injury if fire occurs compared to pre-Standard manufactured homes. Despite the federal requirements for factory-installed smoke alarms, 38 percent of 1999 fires in post-HUD Standard manufactured homes were reported as having no smoke alarms present. Since the homes are required to be sold with installed or readily installable smoke alarms, this suggests a problem with detection devices being removed by occupants.

## Fire causes

Electrical distribution equipment is the number-one cause of manufactured home fires. (For dwellings overall, cooking equipment is the leading cause and electrical distribution is fourth.) Other significant causes of fires in pre- and post-1976 manufactured homes are heating equipment, intentionally set fires, and cooking equipment, which are also the three leading causes of fires in dwellings generally.

"Historically, post-HUD Standard manufactured homes have had smaller shares of their fatal fires attributed to the leading equipment causes – heating equipment, electrical distribution equipment, and cooking equipment

– which probably reflects the provisions of the standards designed to prevent or mitigate such fires," says NFPA report author Dr. John R. Hall, Jr., who oversees NFPA's Fire Analysis and Research Division. "The latest year of fire data available (1999) showed a different pattern, but that is most likely a one-year statistical fluke."

## Safety tips

To increase fire safety in manufactured homes, NFPA offers the following guidelines:

- **Choose a HUD-certified manufactured home**

If you are in the market to purchase or rent a manufactured home, select a home built after 1976 that bears the HUD label certifying compliance with safety standards.

- **Keep smoke alarms working**

Never remove or disable a smoke alarm. If you experience frequent nuisance alarms, consider relocating the alarm further away from kitchen cooking fumes or bathroom steam. Selecting a photoelectric smoke alarm for the areas nearest kitchens and baths may reduce the number of nuisance alarms experienced. As an alternative, NFPA 501 permits a smoke alarm with a silencing means to be installed if it is within 20 feet of a cooking appliance. Test all smoke alarms at least once a month by pushing the "test" button. It is not necessary to use smoke or a real flame to test the smoke alarm's operability, and it is risky to do so. Replace batteries at least once a year, and when the alarm "chirps," signaling low battery power. Occasionally dust or lightly vacuum smoke alarms.

- **Make sure you have enough smoke alarms**

If your older manufactured home does not have smoke alarms in or near every sleeping room and in or near the family/living area(s), immediately install new alarms and fresh batteries to protect these rooms. For the best protection, interconnect all smoke alarms throughout the home. When one sounds, they all sound.

- **Plan your escape**

Know ahead of time how you will get out if you have a fire. [Develop an escape plan](#) (PDF, 634 KB) which includes having an alternate exit out of every room. Make sure you can open and get out of windows and doors. All post-HUD Standard manufactured homes are required to provide windows designed for use as secondary escape routes for the bedroom. Familiarize yourself with their operation and don't block access to them. Immediately fix any windows that have been painted or nailed shut, doors that are stubborn or "stuck," and locks that are difficult to operate. Security bars or grates over windows or doors should have quick-release devices installed inside, which allow you to open them in an emergency. Hold a fire drill twice a year to rehearse how you will react if the smoke alarm sounds.

- **Electrical**

Hire a licensed electrician if you notice flickering lights, frequent blown circuits, or a "hot" smell when using electricity. Use extension cords for temporary convenience, not as a permanent solution. Avoid overloading electrical receptacles (outlets). Electrical cords should not be run under carpets or rugs, as the wires can be damaged by foot traffic, then overheat and ignite the carpet or rug over them. Ground-fault circuit interrupters reduce the risk of electrical shock and should be installed by electricians in kitchens and baths. Arc Fault Circuit Interrupters monitor electric circuits for arcing and should be installed by electricians on bedroom circuits.

- **Cooking**

Unattended cooking is the leading cause of cooking fires in U.S. homes. Supervise older children who cook and stay in the kitchen when heating anything on the stove. Keep cooking surfaces clean and place anything that can burn well away from the range. Heat oil slowly and know how to slide a lid over a pan if you experience a grease fire. Read more cooking safety tips.

- **Heating**

Keep space heaters at least three feet away from anything that can burn. When purchasing new space heaters, select appliances with automatic shut-off switches. Kerosene heaters are illegal for home use in some jurisdictions. Check with your local fire department before purchasing a kerosene heater. Turn off portable space heaters before falling asleep or when leaving the room. Refill kerosene heaters outdoors, after the heater has cooled down. Supervise children and pets when space heaters are operating. Read more heating safety tips.

- **Walls**

All post-HUD Standard manufactured homes are required to have wall linings that do not promote rapid flame spread, with special protection around primary heating and cooking equipment, such as the furnace and cooking range. Presently, gypsum wallboard has replaced plywood wall paneling and wood based ceiling panels in the fabrication of manufactured housing walls and ceilings. This action has dramatically reduced the impact of fires in manufactured homes. Do not mount anything on the walls – such as paneling, drapery, or wall hangings – that would reduce this protection, especially near major heat sources.

- **Smoking**

If you have smokers in your home, ask them to smoke outside. Wherever people smoke, set out large, non-tip ashtrays on level surfaces and empty them frequently. Thoroughly douse butts with water before discarding. Check around and under cushions for smoldering butts. Read more smoking safety tips.

- **Protect yourself from intruders**

Install outdoor lighting to deter intruders, including would-be arsonists. Keep gasoline, charcoal lighter and other flammable liquids locked in an outdoor shed. Don't store items underneath your home. Store firewood away from your home and keep trash and other flammable debris cleaned up. Report any suspicious activity in your neighborhood.