

## Wood Stoves

# Cleaner Wood Burning

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### The Fuel:

#### ***Keep it dry!***

Wood can seem dry and still contain plenty of water, up to 50 percent. The moisture in wood makes the fire give off more smoke. On the other hand, dry wood can provide up to 44 percent more heat. It is against state law to burn wood with more than 20 percent moisture content in fireplaces or wood stoves.

Two things work very well at making sure your wood is dry enough: time and cover. Whether you buy wood or harvest your own, follow these tips to get it fire-ready:

- ***Split it.*** The wood will dry best and burn most efficiently if the pieces are three and one-half to six inches in diameter.
- ***Cover it.*** Protect the wood from rain and weather. Stack it loosely in layers of alternating directions to allow plenty of air circulation. Store it at least six inches off the ground. Call the Wood Smoke Information Line (1-800-523-4636) for easy wood shelter plans.
- ***Give it a year.*** Wood that has been split, dried and stored under cover for at least one year usually meets the 20 percent moisture content requirement.

#### ***Keep it legal***

State law prohibits burning the following in a solid fuel burning device:

- garbage (including diapers);
- plastic or rubber products;
- treated wood (including particle or strand board);
- asphalt-based or waste petroleum products;
- paints and chemicals;
- animal carcasses;
- anything else which normally emits dense smoke or obnoxious odors.

*Paper is legal only for starting the fire.*

### The Smoke:

## ***There's a state law on how much!***

State law limits the density of smoke from indoor fires to ensure that people use clean burning techniques. This requirement is called the 20 percent smoke opacity limit.

Opacity means how much your view through the smoke is blocked.

100 percent opacity means you can't see anything through the smoke. 20 percent opacity means there is very little smoke and you can see almost perfectly through it. If you use dry enough fuel, the right equipment, and give your fire the right amount of air, there should be no visible smoke from your chimney or stove pipe-only heat waves.

There are two exceptions to the opacity rule which allow you limited time for denser smoke:

- ***Starting the fire.*** You have up to 20 minutes every four hours.
- ***Stoking the fire.*** You have up to six consecutive minutes in any one hour period.

## **The Fire:**

### ***Give it air!***

The right amount of air gives you a hotter fire and more complete combustion. That translates to more heat from your wood and less smoke and pollution. Here are some cleaner burning tips:

- ***Build small, hot fires.*** Don't add too much fuel at one time.
- ***Step outside and check the chimney or flue.*** If you can see smoke, your fire may need more air.
- ***Read and follow*** the stove manufacturer's instructions.
- ***Don't "bank" the stove*** full of wood and damper down the air supply. This wastes wood, produces much air pollution, promotes accumulation of creosote (which requires more frequent cleaning and can lead to chimney fires) and yields very little heat. Half-full is adequate; it provides enough air space for efficient combustion.
- ***Don't damper down too far.***
- ***Allow enough air to reach the wood.*** This varies among models and kinds of stoves.
- ***Make sure your stove is the right size for your home.*** Too large a stove will overheat your living space. You'll want to damper down. This causes added pollution and wastes wood.
- ***Don't burn in moderate temperatures.***
- ***You'll want to damper down,*** which causes more pollution and wastes wood.

***Don't burn when air currents carry your smoke*** to your neighbor's yard or house.

