


Burn Wise

Program of U.S. EPA


BURN THE RIGHT WOOD, THE RIGHT WAY, IN THE RIGHT WOOD-BURNING APPLIANCE


Did you know that by changing the way you burn wood you can save money, reduce air pollution and protect your health?


Here are a few simple tips to make your fire burn hotter, keep your wallet fatter and keep your local air cleaner and healthier.


 **Season all firewood.** All firewood should be split, securely covered or stored, and aged for at least six months. Seasoned wood burns hotter, cuts fuel consumption and reduces the amount of smoke your appliance produces.

 **Choose the right firewood.** Hardwoods are the best. Never burn trash or treated wood which can emit toxic air pollutants.

 **Start it right.** Use only clean newspaper or dry kindling to start a fire. Never use gasoline, kerosene, charcoal starter, or a propane torch.


 **Don't let the fire smolder.** Many people think they should let a fire smolder overnight. But reducing the air supply does little for heating and increases air pollution.


 **Clean ashes from your wood-burning appliance.** Excess ashes can clog the air intake vents reducing efficiency. Be sure to dispose of ashes in a metal container away from the house or any flammable material to reduce the risk of fire.

 **Keep your chimney clean.** A clean chimney provides good draft for your wood-burning appliance and reduces the risk of a chimney fire. Have a certified professional inspect your chimney once a year.

 **Be a good neighbor.** Follow best practices for burning wood. Always remember to comply with state and local codes and check your local air quality forecast.

 **Follow instructions.** Operate your wood-burning appliance according to the manufacturer's instructions and follow all maintenance procedures.

 **Upgrade to cleaner equipment.** EPA-certified wood stoves and fireplace inserts burn cleaner and burn wood more efficiently emitting less particle pollution than older models.

 **Size matters.** Choose the right-sized appliance for your needs. If your wood-burning appliance is too big for your room or house, the fuel will smolder and create more air pollution.



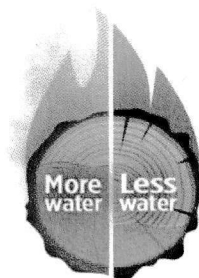
For more information on how to burn wise, go to www.epa.gov/burnwise

Burn Wise: Test Your Wood with a Moisture Meter

Why should I use a wood moisture meter?

Burning wet wood is a waste of energy. Wood burns most efficiently when the moisture content is between 15% - 20%. When a live tree is cut the moisture content can be greater than 50%, (i.e., half of the weight of the wood is water).

Too much water in the wood reduces the temperature in the stove preventing the wood from completely burning (water puts out fires). Incomplete combustion results in smoke (wasted energy) going up the chimney and creates creosote (a fire hazard). The smoke can also negatively impact your air quality inside and outside your home.



**Burn drier.
Burn better.**

Use dry wood for a cleaner fire with more heat and less smoke

How do I test my firewood with a wood moisture meter?

Split the firewood, then shortly after (less than 24 hours), stick the prongs of the wood moisture meter into the newly split side of the wood. This ensures you are testing the inside of the wood and not just the outer layer of the wood. Also, stick the wood so the prongs run parallel with the grain of the wood and test 2-3 different locations for the most accurate reading. If possible, test the wood when the outside temperature is 50°F – 90°F. Lower wood temperatures result in lower indicated moisture content. See correction table: <http://www.delmhorst.com/correction-tables#temperature>. You can purchase a basic moisture meter online or at most hardware stores for around \$15.00 - \$40.00.

Step 1:

Split the wood



Step 2:

Test newly split side



Ready to Burn



Not Ready to Burn



How to Season Your Firewood?

To season your wood split (split wood dries much faster), stack, cover the top and store your wood for at least 6-12 months.

For more information go to <http://www.epa.gov/burnwise>.

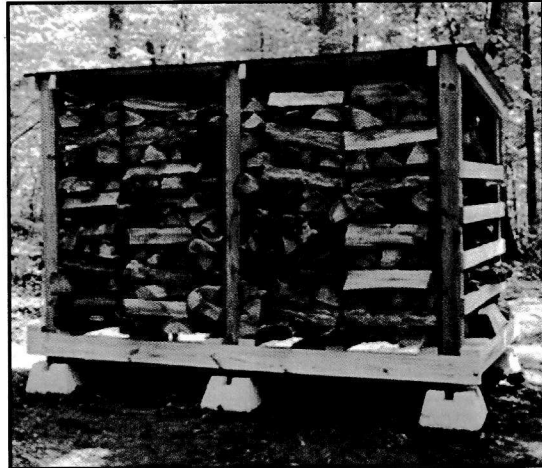
Burn Wise Split, Stack, Cover and Store Video- <http://www.youtube.com/watch?v=yo1--Zrh11s>.

Burn Wise

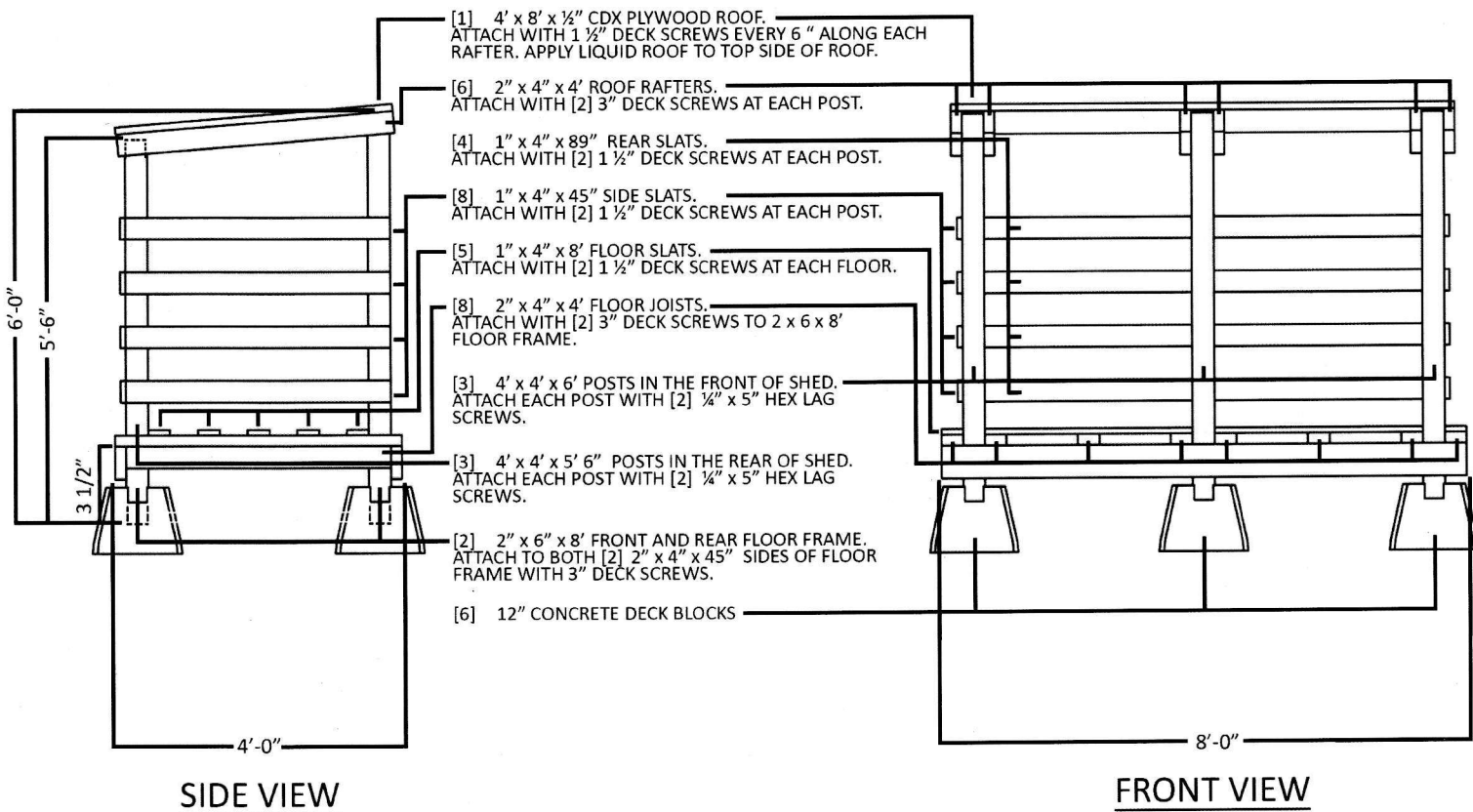
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Modular Wood Shed

- Holds about one cords of wood
- Light enough to move by hand
- Easy to fabricate with mostly straight cuts and no mitered corners or joints
- Uses outdoor treated woods for the structure and liquid roofing primer for the roof
- Connectors and fasteners are galvanized
- Roof and sides are finished to owner specifications (e.g. composition, metal, wood shakes, etc.)
- Footings provided by owner (concrete post bases or pavers)

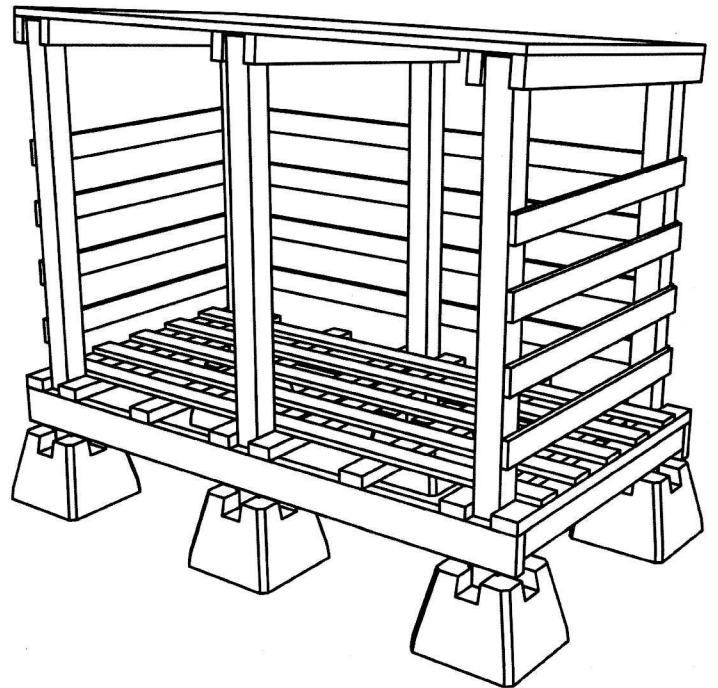
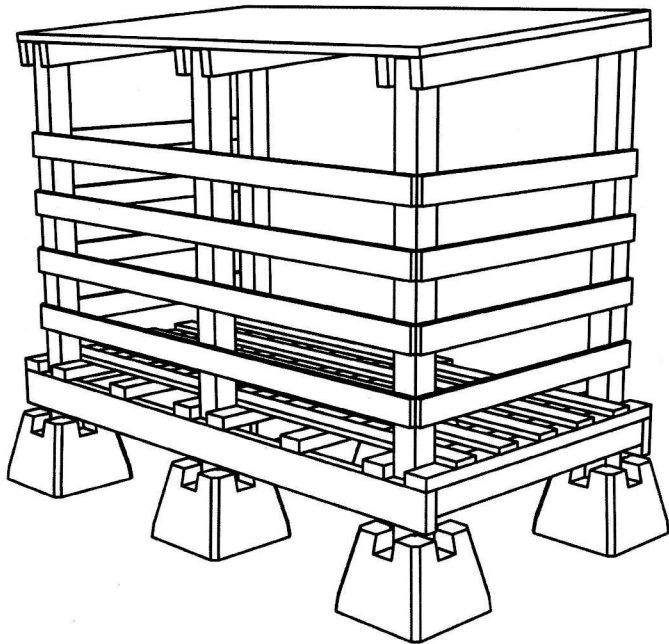


www.epa.gov/burnwise/burnwise-wood-shed-design



WOODSHED MATERIALS LIST

ITEM	QUANTITY	DESCRIPTION	UNIT COST	SUBTOTAL
2" x 6" x 8' treated pine	2	Floor Frame	\$5.27	\$10.54
1" x 4" x 8' treated pine	13	Floor Slats, Side and Back Slats	\$4.97	\$64.61
2" x 4" x 8' treated pine	8	Floor Frame, Joists, Roof Rafters	\$3.37	\$26.96
4' x 4' x 12' treated pine	3	Posts	\$13.17	\$39.51
4' x 8' x 1/2" CDX plywood	1	Roof	\$15.77	\$15.77
1/4" x 5" Hex Lag Screws	12	Secure posts to 2" x 6" and 2" x 4" Floor Frame	\$0.54	\$6.48
3" Galvanized Deck Screws	1 lb. Box	Secure Floor Frame, Joists and Roof Rafters	\$9.89	\$9.89
1 1/2" Galvanized Deck Screws	1 lb. Box	Secure Floor Slats, Side and Back Slats, Roof	\$9.89	\$9.89
Liquid Roofing	1 - 5 Gal	Weather protection	\$47.00	\$47.00
12" Deck Blocks	6	Raise Woodshed off ground	\$6.55	\$39.30
			TOTAL	\$269.95



Based on and modified from the Makah Tribe's Modular Wood Shed design

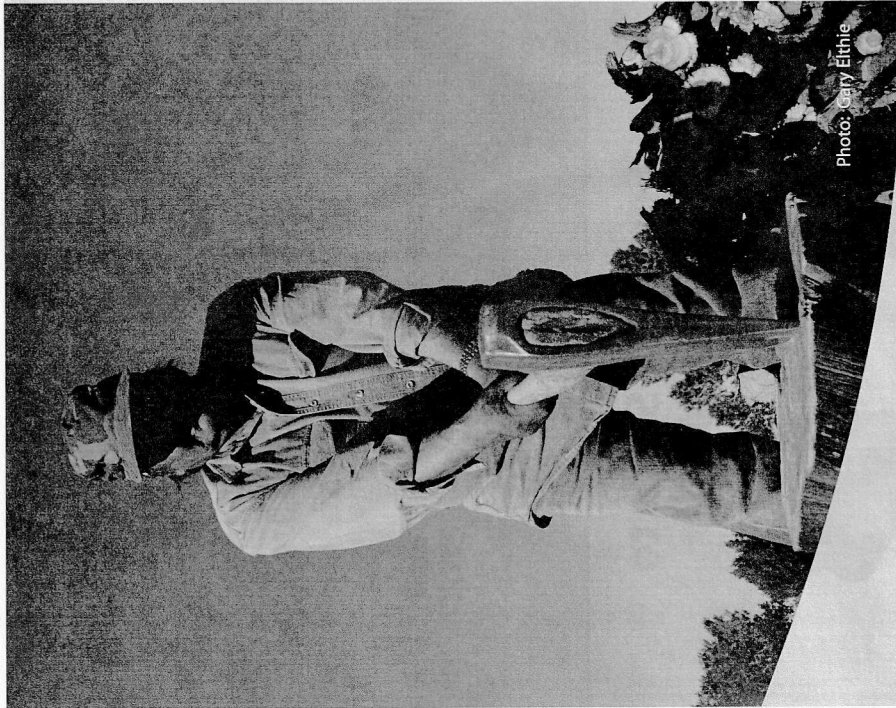


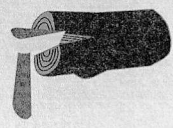
Photo: Cary Ethlie

Wood Smoke and Your Health

Small particles and pollutants in wood smoke can trigger asthma attacks. Wood smoke has also been linked to heart attacks in people with heart disease.

Even occasional exposure to wood smoke can cause watery eyes, stuffy noses and chest tightness. Everyone may experience symptoms, but children and elders are especially vulnerable.

FOUR EASY STEPS TO DRY WOOD



STEP 1 SPLIT

- Start with the right sized wood
- Split wood dries much faster
- Split the wood in a range of sizes to fit your stove, but no larger than 6 inch wedges
- Split small pieces for kindling



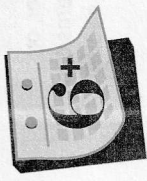
STEP 2 STACK

- Stack wood to allow air to circulate
- Build the stack away from buildings
- Keep wood off the ground by stacking it on rails
- Stack wood in a single row with the split side down



STEP 3 COVER

- Cover the top of the stack to protect it from rain or snow
- Make sure there is space between the cover and the stacked wood – don't let the cover rest directly on top
- Keep the sides open so air can circulate through the stack



STEP 4 STORE

- Allow enough time to dry
- Softwoods take about 6 months
- Hardwoods take about 12 months
- Properly dried wood is lighter and sounds hollow when knocked against another piece of wood



Is your wood dry? Take the moisture meter test.

Wet wood can create excessive smoke which is wasted fuel. Moisture meters for wood are available and can cost as little as \$20. Properly dried wood should have a reading of 20% or less. For an accurate reading, split your wood and then test the newly split side of the wood. Dry wood creates a hotter fire. Hotter fires save wood – ultimately saving you time and money.

WET WOOD IS A WASTE

www.epa.gov/burnwise

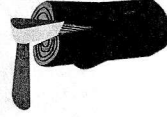
Clean and Efficient Heating Checklist
Burning dry firewood can save money and protect you and your family's health. A properly installed and operated wood-burning stove should produce little smoke.

- Start a small fire with dry kindling then add a few pieces of wood.
- Give the fire plenty of air – fully open the air controls until the fire is burning vigorously.
- Burn the fire to heat the chimney or flue before adding more wood.
- Keep space between the firewood as you add more to the fire.
- Check for local burn bans and avoid fireplace and wood stove use while in effect.
- Avoid burning garbage, treated lumber, or saltwater driftwood. Burning these items can damage your stove and cause serious health issues.
- Have your stove and chimney professionally inspected and serviced yearly if possible.
- If available, refer to your owner's manual for start-up guidelines.
- A smoldering fire, "dirty" glass doors, or smoke from the chimney are all signs that the fire needs more air or your wood is too moist.

WET WOOD IS A WASTE

BURN DRY FIREWOOD
TO SAVE MONEY AND HEALTH

Four Easy Steps to Dry Firewood



STEP 1

SPLIT



STEP 2

STACK



STEP 3

COVER



STEP 4

STORE

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