



• DESIGN • REVIEW • GUIDE •

Pressure Treated Wood

Burlington is well known as a community with a high quality of life, small and cohesive neighborhoods, a vibrant downtown and waterfront – all within a spectacular setting on the shores of Lake Champlain. This deserving reputation is due in part to the City’s small size, entrepreneurial spirit, civic-minded citizens and activist government. One of the many factors that makes Burlington such a great place to live, work and visit is the community’s attention to detail, and respect for its setting, heritage and quality urban design.

Burlington’s Design Review process strives to protect the city’s unique qualities and strong sense of place by carrying out citywide development and design objectives. The purpose of this *Design Review Guide* is to help applicants in preparing projects to be reviewed by the City’s Design Advisory Board and Development Review Board. Through materials such as this, the Department of Planning & Zoning seeks to make information available well before the final design of a project, saving the applicant, and the city, time and money.

Adding a deck or fixing a porch? If so, chances are you’ll reach for pressure-treated wood at the local lumber yard. Pressure-treated wood is great for withstanding rot and insects, particularly when placed on or in the ground. However, there are some things you should know about pressure-treated woods. This edition of the *Design Guides* will discuss choosing and using pressure-treated wood, and some precautions to protect yourself and the environment.



GETTING TO KNOW YOUR WOOD

Wood has three enemies - moisture, sunlight and insects. Each affects how well and how long wood will last. Moisture causes wood to rot, and fungus to grow on and in the wood. Insects are attracted to the wood both as a food source (termites) and for nesting (carpenter ants). Sunlight causes wood to dry and contract, creating cracks that expose more of the wood to the effects of sun and moisture - a vicious cycle.

Pressure-treated wood is protected from decay and infestation by insects. Pretreating wood typically involves three types of preservatives in varying combinations: (1) **oils** (coal tar creosote), (2) **organic solvents** (pentachlorophenol), and (3) **water-borne salts** (chromated copper arsenate - CCA). The process for applying these chemicals involves applying high pressure in a sealed chamber to force the preservative deep into the wood. Both creosote and pentachlorophenol are pesticides that protect the wood from insect infestation, and other chemicals are used to prevent the wood from rotting. Wood treated with oils and creosote are typically used in industrial applications such as telephone poles and timber pilings where the

wood is in direct contact with the soil. Pressure-treated wood comes in two basic types - “Above Ground” or “Ground Contact,” and with a range of concentrations of preservatives.

HOW TO HANDLE PRESSURE TREATED WOOD...

Because of the chemicals, it is a good idea to avoid skin contact when handling pressure-treated wood - wear gloves and long sleeves. Cut the wood in a well ventilated area, and wear a dust mask and eye protection – good safety precautions for any project.

Wood treated with creosote or pentachlorophenol should not be used where it will be in direct contact with skin (such as furniture) or where it may be ingested (such as in a barn or dog house). CCA-treated wood is safe to use in playgrounds and decks, however it does contain inorganic arsenic (a known carcinogen in humans) which can migrate into the soil and be transferred onto skin. This can be resolved by using a penetrating finish like a semi-transparent stain.

Pressure-treated wood is not maintenance free and will not be protected from all conditions and pests. Carpenter ants are not deterred because they don’t actually eat the wood. As soon as water can be absorbed, it’s time to treat it. If you don’t want the wood to change color, you should seal it with a UV inhibitor.



If you can’t use the leftover pieces in another project, they can be sent to the landfill - they do not need to go to a special hazardous waste facility. But don’t burn them outside or in a fireplace or wood stove. Burning can cause the chemicals to be released and concentrated in the smoke and ash.

ALTERNATIVES...

So what are your alternatives? One would be to use untreated wood, and paint it and seal it yourself. Not a bad idea considering that porch spindle that you're replacing is probably 50 or more years old and wasn't pressure-treated. This is an especially good option for above-ground projects and projects covered by an overhang or a roof. Additionally, woods like redwood and cedar are naturally resistant to insects and rot.

If you're set on using treated lumber, there are non-arsenic alternatives. One is called "ACQ Pressure" and it's treated with ammonia, copper and quaternary ammonia. Although not perfect, it is a better alternative if you are concerned about arsenic exposure. In fact, the wood treatment industry has voluntarily agreed to end the use of all arsenic-based preservatives in residential products by the end of 2003.

PAINTING OR STAINING TREATED WOOD.

You should consider painting or applying a water-repellent finish. It'll look better, fit in more with your home, and last longer. Anytime you are making repairs to an existing porch it should be painted or stained to match the existing color patterns of your home. New porches and decks should also try to match the rest of the building, especially if they are visible from the street.



Painted vs Unpainted porch

There are differing opinions on how long pressure-treated wood should sit before painting - some say a year, others six months. It depends on how dry the wood was when it was installed. One test is to sprinkle some water on it - if the water is absorbed, it's ready to be painted. If time is an issue, use wood marked KDAT (kiln-dried after treatment). As for paint or stain, semi-transparent or oil-based stains work best.

DESIGN CONSIDERATIONS

Whether or not you choose pressure-treated wood, many of the same design considerations are applicable. As you plan your projects, you should give some thought to the following:

✓ Replace only those wooden features that need it. Don't rebuild an entire railing when only one or two spindles need to be replaced.

✓ The scale, shape, and detailing of any repair materials - like porch spindles - should match the remaining details.

✓ Wooden porches and decks (including the steps) should be painted or stained in order to match the existing color scheme of the principal structure.



ADDITIONAL INFORMATION

general information & zoning permits

- **Burlington Dept. of Planning & Zoning**

149 Church St., Burlington, VT 05401

802.865.7188 www.ci.burlington.vt.us/planning/

building permits

- **Burlington Dept. of Public Works**

645 Pine St., Burlington, VT 05401

802.863.9094 www.dpw.ci.burlington.vt.us/

historic building rehabilitation

- **National Park Service**

"Guidelines for Rehabilitating Historic Buildings"

www2.cr.nps.gov/tps/tax/rhb/wood01.htm

- **VT Division for Historic Preservation**

National Life Bldg., Drawer 20

Montpelier, VT 05620-0501

800.622.4553 www.uvm.edu/~vhnet/hpres/org/vdhp/vdhp1

wood preservers industry

- **American Wood Preservers Institute**

2750 Prosperity Avenue, Suite 550

Fairfax, VA 22031-4312

1-800-356-AWPI www.preservedwood.com

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