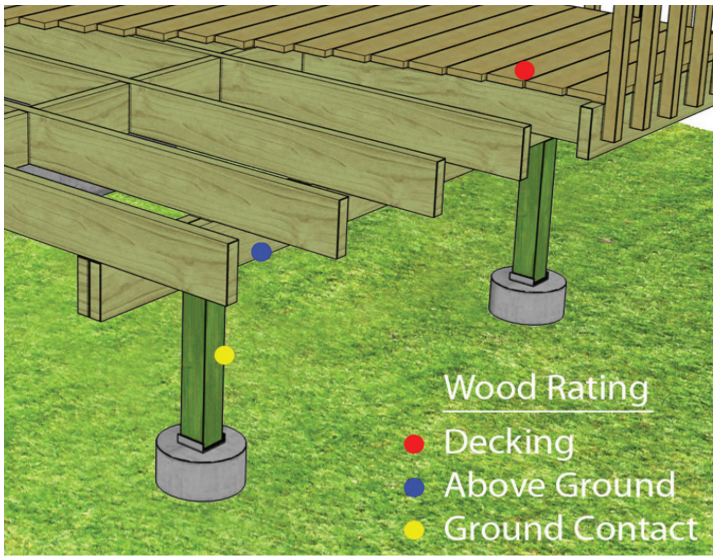
Pressure Treated Wood

Pressure treated wood is a staple of the North American backyard. Decks, fences and play structures will last longer when made from pressure treated wood. Wood exposed to the elements will decay as it is attacked by fungus and insects. Pressure treatment introduces a chemical into the wood that is inhibits fungus growth. No fungus - no rot.

For many years, the chemical used was chromated copper arsenate (CCA). CCA contains chromium, copper and arsenic. Chromium and arsenic are toxic to the environment and to people. In 2004, CCA was phased out. It is no longer used to pressure treat wood for most residential uses.



New pressure treated wood has task specific levels of treatment

Health Risk

Many people are concerned that their existing CCA pressure treated wood structures pose a health risk. Government bodies agree that there is no significant health risk from existing CCA pressure treated wood. They do not believe there is any reason to remove or replace CCA treated structures including decks and playground equipment however prudent avoidance is advised.

Prudent Avoidance

Prudent avoidance means minimizing exposure. Exposure comes from getting arsenic into the mouth, not from touching CCA treated wood. Children are most at risk since they often put their hands in their mouths. Parents should manage the risk by making sure children always wash hands thoroughly after contact with CCA pressure treated wood. This is especially important with respect to food. Wash hands before eating, make sure no food comes in contact with pressure treated wood, use a table cloth on tables made from CCA treated wood.

Stains and Coatings

The U.S. Environmental Protection Agency (EPA) in conjunction with Consumer Product Safety Commission (CPSC) tested the effect of coating existing CCA treated wood to reducing exposure to arsenic. The results were that application of a penetrating sealant can reduce the exposure to one tenth but the protection is short lived. The penetrating sealant should be re-applied every year or two. Oil based, semi transparent stains that soak into the wood are the most effective. Surface coatings such as paint or varnish were not considered to be as effective.

New Pressure Treated Wood

New pressure treated wood does not contain arsenic or chromium. The two main preservatives used are ***alkaline copper quat*** (ACQ) and ***copper azole*** (CA). These new preservatives have very low toxicity.

To make these preservatives effective, the amount of copper used is much higher, four or five times as much. To the consumer, this means the cost of pressure treated wood is higher.

Task Specific Treatment

Since the new preservatives are so expensive, wood is pressure treated only to the extent required for the particular application. For example, deck boards do not need as much preservative as wood that will be in contact with the ground. The three levels of treatment commonly used for pressure treated wood are:

- Decking
- Above ground structural elements
- Ground contact

The treatment level is dictated by the dimensions of the lumber. 4X4s and 6X6s are treated for ground contact, 2X lumber is treated for above ground use, smaller than 2X such as 5/4 deck boards is treated at decking levels.

Corrosive

New pressure treated wood is 5X more corrosive to steel than CCA. This means that special fasteners must be used. Stainless steel fasteners and copper flashing is ideal but expensive. Galvanized steel fasteners can be used but they must be a much higher grade, designed for this application. If the wrong fasteners are used they will corrode very quickly and could lead to failure of the structure.

Tags

Pressure treated lumber is tagged showing the treatment levels and the type of preservative used. This illustration shows a typical pressure treatment tag. In this case, we are looking at wood designated for above ground use. The treatment chemical is copper azole. The amount of preservative in the wood is 0.1 pounds per cubic foot. This is called the retention level.

Each and every board of pressure treated wood should have its own tag.