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Caution needed when using pressure-treated wood

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BY THE OTTAWA CITIZEN APRIL 19, 2008

Arsenic isn't an element that enjoys a good public relations image. That's why the American and Canadian lumber industries voluntarily halted consumer sales of all pressure-treated wood containing arsenic-bearing chemicals four years ago.

Trouble is, the new, arsenic-free, pressure-treated lumber also presents hidden hazards that too few people realize. If you're planning to build an outdoor project this spring, you need to understand crucial details for your work to endure. And don't assume that every builder understands the seriousness of this issue.

Safety rules for handling and building with the new breeds of lumber read the same as for old wood, despite the freedom from arsenic. According to Environment Canada, avoid using the new pressure-treated lumber where direct food contact is possible.

Keep it away from animal food storage bins, water troughs and compost bins.

Wear gloves and long sleeves when working with pressure-treated lumber, and put on a dust mask when cutting it. Wash your hands after working with the product, and especially before eating, drinking or smoking.

Launder work clothes separately before reuse, and never burn pressure-treated wood scraps. Of all the safety rules -- new pressure-treated or old -- the no-burn requirement is the most important.

Besides rules for safe handling of pressure-treated lumber, there's a structural issue, and it has to do with a chemical interaction that's not obvious.

A substance called alkaline copper quat (ACQ) is one of the most common wood preservative compounds that keeps new kinds of pressure-treated lumber from rotting.

ACQ relies on copper to be effective, not arsenic, and this is where structural problems can occur if you're not careful. When the copper in pressure-treated wood gets wet and comes in contact with certain kinds of metal nails, screws and joist hangers, it accelerates the corrosion of these fasteners.

The first signs of trouble show up as rapid staining of the wood surrounding these fasteners, often within just a few weeks of construction. And within a few years, the choice of inappropriate fasteners will cause premature deck failure as nails and screws are reduced to crumbly iron oxide.

Hot-dipped galvanized nails and screws offer the minimum level of corrosion protection required by today's modern lumber. Stainless steel is even better, though there's a problem. It's not always easy to know the makeup of fasteners just by looking at them. In fact, you can't tell what you've got just by sight.

At a minimum, the safest approach is to use fasteners specifically labelled for use with ACQ lumber. You should also make a distinction between two kinds of joints in your outdoor projects: joints that remain accessible after construction, and those that you can't ever get at once the project is complete. Inaccessible joints should be fastened with the more costly, reliable stainless-steel screws or nails. You can afford to use less expensive, hot-dipped fasteners on joints where additional nails or screws can be installed years later, if the first fasteners fail.

Aluminum flashing is another area you need to consider when using pressure-treated wood. Aluminum is especially vulnerable to corrosion when in contact with copper-rich lumber. That's why it's essential to use copper flashing anywhere near pressure-treated wood.

Handle today's pressure-treated lumber properly and it'll deliver excellent results for a long, long time.

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