

The Pressures on Treated Wood - Recent studies & alternative materials deliver some hard knocks

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Look around any part of the city or suburb and you'll see decks - and matching play sets - popping up faster than yard sale signs in June. This has been the decade for decks. I too have one waiting to be built and another to be replaced. But a look at what is routinely being offered in decking materials, that is, pressure treated wood, may give us cause to reconsider the options.

According to Development Specialist Gary Forward, with the Newfoundland Forest Service in Corner Brook, pressure treated lumber is generally what is pushed by the retailers. "It's easy for the building supply stores to obtain, it's accepted in the marketplace, and people think it will last forever.

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There's no denying the treated wood industry is big. In 1994, the value of treated wood installed in Canada was worth \$10 billion. The most commonly available is now treated with chromated copper arsenate (CCA). It's a preservative used to protect the wood from bacterial, fungal and insect decay and is recognizable by its greenish tinge.

St. John's Chester Dawe's buyer Brian Noseworthy agrees with Forward. "Pressure treated is still by far the number one item for decking," he says, adding that treated wood comprises 90% of his sales. For it's part, the industry nails down a good point. "Pressure treated wood saves trees...extending the life of the wood we use means we'll cut down fewer trees," says the Canadian Institute of Treated Wood (CITW) website.

But does it last the forty-odd years claimed by the industry? Are we getting what we pay for? Forward doesn't think so. He believes treated wood is "a marketing ploy", that it costs a lot with very little benefit to the consumer. He says that what is locally available has just a surface application and suggests that "a lot doesn't meet industry standards." Again Noseworthy confirms that what most of the building supply stores buy is the lower grade treated wood. "You can get the whole piece treated, but it's very expensive...and it's usually pine from the States."

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One Canadian study revealed that the quality of pressure-treated wood sold for residential use is substandard. Tests conducted on hundreds of pieces of treated lumber showed that the chemical penetration and retention fell far below standards set by the Canadian Standards Association. The study also pointed out that spruce and balsam fir - the most commonly available pressure treated wood in Newfoundland - are not considered treatable species.

A recent study commissioned for the Newfoundland Forest Service showed similar results. That study also concluded that CCA penetrates wood to a lower extent and provides less protection in difficult to treat species like spruce and fir.

Forward says that the knife-like markings on some treated wood, called incising, is done to improve penetration. "I'm not sure how effective that is," he adds.

Decks should be a place to put your worries away. So, is a CCA-treated deck safe enough for you, the kids, and the family pooch to loll about on?

CCA is registered as a pesticide with Health Canada's Pest Management Regulatory Agency. In 1992, PMRA's predecessor announced the re-evaluation of all heavy duty wood preservatives, including CCA. The re-evaluation was initiated partially out of concern that these pesticides were suspected of causing tumours and that wood products treated with these pesticides were widely used by the public. But homeowners may not want to wait it out. In a process that rivels the lifespan of some treated wood itself, PMRA has given itself at least another year of study.

Meanwhile, CITW claims that the chemicals in CCA are "deposited deep into wood cells and permanently fixed there, virtually immune to leaching." Despite these claims however, there is growing evidence, from real life and laboratory situations, that point to the contrary.

A 1997 study conducted in Connecticut found that soil samples taken from beneath CCA wood decks contained, on average, 20 times more arsenic than the control soil, and as much as 35 times the legal limit for arsenic in soil.

Chester Dawe's Noseworthy buys most of his lumber from Quebec and Ontario where it is shipped to Nova Scotia for pressure treating. Wood treating facilities in the Maritimes were studied by Environment Canada in 1989. Results revealed highly contaminated soil samples of arsenic, copper and chromium from each of the wood preservation sites.

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Municipal and school playscapes built with pressure treated wood have also been getting nailed recently. The U.S. syndicated TV show Hard Copy investigated one such playground in Pennsylvania. Soil beneath the play structure revealed what one soil scientist announced as extremely high levels of arsenic. And last fall, officials at one Florida school decided to tear down a CCA wooden playground structure because high levels of arsenic were found in the soil beneath it.

Then, research unveiled just three months ago by a University of Florida team - on nature park boardwalk structures - demonstrated that CCA-treated wood routinely leaches large amounts of arsenic into soil. But perhaps the real headache with CCA wood is how do you dispose of it once it's reached the end of its useful life? It can't be burned. Whether in fireplaces or state-of-the-art incinerators, burning concentrates chromium and copper in the ash while arsenic becomes a noxious vapour. With millions of board feet of the stuff coming out of service every year across North America, dumping it in unlined landfills is becoming a vexing problem for municipalities concerned with chemical leaching and groundwater contamination. That's probably why some European countries have already banned the stuff. Finally, some professional organizations are recommending that CCA be phased out in favour of other preservatives. Non-arsenic commercial wood preservatives are available in the U.S., but not yet in Canada.

So it's back the drawing board, you think, lamenting the loss of near maintenance-free summers. Not necessarily so. Here are some options:

Brian Noseworthy calls cedar from the west coast a "proven product". The wood is highly resistant to insect and rot decay. According to Noseworthy it's about twice the price of pressure treated wood, but if it's sealed every couple of years, a cedar deck will last a lifetime. That much of this wood comes from old growth forests that are in limited supply, however, may make it a less than desirable alternative.

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For his time and money, Forward says he'd buy local spruce or fir and stain it. Applying stain every couple of years can increase the lifespan of a spruce deck to 15 or even 20 years.

Another option, for some applications, and an increasingly favourite one of local landscape architect Fred Hann, is pre-cast concrete. Advantages of this product, according to Pitcher's Concrete Impressions of Mount Pearl - currently the only manufacturer of this product in the province - include low maintenance, and an attractive alternative for walkways, patios, and pool decks which can last up to 30 years. The 'stamped' concrete comes in a variety of patterns, such as slate, wood plank, and mexican tile. Owner Barry Pitcher, who added this line to the family business three years ago, says the response to the product has been overwhelming. Expect the cost for an average patio to run about \$8 per square foot. A fairly new wood on the block, for decking purposes, is the softwood larch (*Larix laricina*), locally called juniper. It's more durable than spruce and fir, and is a beautifully grained wood. Bill Alexander, of Garden Wood Products in Stephenville, has built some decks with this material and knows the demand is there, saying "it makes a wonderful deck when treated with stains". But he adds, "the industry is driven by large players."

Alexander also says that larch is hard to get. It is not as abundant as spruce on the Island. But, according to Forward, it's the fastest growing wood in popularity in Newfoundland, particularly for interior floors. With Forward's department interested in value-added manufacturing, Forward believes that managing and encouraging the growth of larch may be an ideal opportunity if demand in the wood continues.

Then there's composite decking, a relatively new product on the market. It's a recycled plastic and wood combination using materials such as used grocery bags and waste wood fibre or even rice hulls. Manufacturers say synthetic/recycled decking is a long-lasting product, virtually impervious to moisture and insects, and never requires preservative treating, painting or staining. Many of these new decking materials have a slip-resistant faux-grained wood finish and carry about a twenty year warantee. The material is about twice the price of pressure treated wood, but competitive with cedar. Due to it's flexibility, this material lacks structural strength, so traditional structural lumber must be used for framing. Noseworthy said he experienced moisture uptake with one brand, but that sealing the material would solve that problem.

The latest entry on the decking scene comes from a local contender Charlie Flight, of Nova Recycling. His new west coast operation, Nova Plastic Products, is getting ready to produce Newfoundland's first plastic lumber. Flight, who says they'll be producing a variety of lumber sizes, including decking plastic lumber, expects operations to be ready for September 1st. "You can saw, hammer, nail, and plane it," says Flight, adding that in terms of lifespan, "you're going to outlive it." When can consumers expect to buy this new product? "Before the new year," says Flight, adding "we've got Chester Dawe interested in taking the material." And the cost? Expect it to be the same price as, or cheaper than, pressure treated lumber.

Maybe it's a point worth hammering home. Alternatives to a product which may be harmful to our health, pollute the environment and which may not be a maintenance-free miracle after all, do come in all shapes and sizes.

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