

# The evolution of pressure treated lumber

Charting the path from environmentally *suspect* to certified safe

By Dick Gauthier, VP/Marketing, Universal Forest Products, Inc.

In years past, if you were referring to treated wood as being green, you'd be talking about its color, not about it being an environmentally friendly building material. Most thought it could never be considered green in the environmental sense, because... well, it was made from felled timber and stuffed with noxious chemicals. A sort of double whammy of scorn-worthy traits. I'll explain shortly why that thinking is dead wrong.

But first, some historical perspective.

As early as the 1940s, treated lumber was preserved with Chromated Copper Arsenate (CCA), a formula that in my judgement was, and is, safe, efficacious, and comparatively inexpensive. The backyard deck craze hit the US in the late '70s and the '80s and CCA was the undisputed king – in these markets, CCA was treated lumber. In the '90's new alternatives to CCA were introduced. None took meaningful market share from CCA because none could match its performance and value. As the millennium approached, there was increased scrutiny regarding the perceived safety of CCA as reported by various “consumer advocate” reporters and environmental organizations. Treaters now found themselves

in the same trial lawyer crosshairs as the makers of cell phones (they cause brain tumors, only they don't) and breast implant makers (they caused cancer, only they didn't).

In 2003 treaters voluntarily stopped using CCA for residential applications and newer, more expensive formulations replaced CCA.



**One bright spot** that emerged from the demise of CCA was that the pace of innovation in preservative development quickened. The most positive result was the recent introduction of a new micronized copper preservative. Developed by Osmose, Inc., and marketed as ProWood Micro, the new process bonds microscopic copper particles to the wood cells. Because of this, there is no need for a solvent (which is still used in most other non-micronized formulations). These attributes have earned the ProWood Micro formulation Environmentally Preferable Product (EPP) status from

Scientific Certification Systems, a leading third party certification firm.

This is the first and only such preservative to earn this recognition. To earn EPP certification, a product must demonstrate reduced impact on human health and the environment when compared to other products that serve the same purpose, as measured by guidelines published by the U.S. Environmental Protection Agency.

**Green Wood:** Aside from the color of the wood, modern treaters have always strived to produce a green product. For one, treaters use a closed loop system – all water and chemicals are recycled in the process. You won't see smokestacks over a treating plant; emissions are negligible. The process used to treat wood uses a fraction of the energy involved with making concrete or milling steel. Because of its long life it is estimated that PT lumber saves over 100 million trees from being harvested each year.

Although accurate, I have to admit that claim probably invites ridicule from some environmentalists. Why? Because we cut down trees to make PT wood. A lot of them. But here's where the debate gets interesting. It can be argued that harvesting trees is actually good for the environment. Through photosynthesis, young, growing trees

sequester CO<sub>2</sub>, the major contributor to global warming, where it is stored forever, unless the tree dies and decays or is burned (it is estimated that the average home built from wood stores over 20 tons of carbon\*).

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An old forest reverses this process, removing oxygen and emitting carbon dioxide. Some think the Amazon rain forest, for all its lush beauty and natural beneficence, is a net carbon

producer, since so much of it is inaccessible and is left to decay.

Managing the forest, by thinning and clearing debris, also has a positive effect because it helps to reduce the number and intensity of wildfires, which emit vast quantities of CO<sub>2</sub>.

Lastly, wood is renewable. Use one, grow one. Or more than one. Today forest growth exceeds harvest by 36%. Once extracted, the raw materials used to make steel, plastic, and concrete are gone, practically speaking, forever.

**But, wait a minute** - some steel, plastic, and concrete products are recyclable, right? Yes, but wood still requires less energy to produce than any recycled product. In an eval-

uation of environmental attributes, renewability beats recyclability.

The use of any building product has an environmental price tag. Environmentalists use life cycle analysis to determine this price. When using life cycle analysis, wood comes out a clear winner. As long as we continue to plant, grow, and use trees, both the consumer and the environment will benefit.

*\*Consortium of Research for Renewable Industrial Materials*

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