GREEN TECH THE SERIES COLUMN FOR SEPTEMBER 7, 2016
HEADLINE: PRESSURE TREATED AND COMPOSITE EXTERIOR WOOD

This week's subject on pressure treated and composite wood may be on the fringe of green home technology, but it is information worth knowing.

Pressure treated wood (PTW) has come a long way from the early days where part of its chemical makeup was arsenic and, in later years, chromated copper arsenate. This pressure treatment is still used in non-residential applications such as hydro poles. Today's PTW however contains different copper formulated treatments that are Health Canada approved. Borate based pressure treatment is also used but must be protected from rain. Zinc borate is used to treat OSB during the production of oriented strand board for roof and wall sheeting. Both are effective in reducing decay in wood, copper based preservatives become part of the wood fiber and can be used outside and even in water. Borate is diffusible, which means it will leach out of wood that is constantly exposed to water.

Why do we make and use PTW? Simply, this treatment essentially makes the wood inedible for insects and fungus that can destroy wood. The pressure treatment is integrated into the fibers of the wood in sufficient quantity that the chemical treatment will generally outlast the life of the fence or deck it is being used for. When the wood is actually treated it will also eliminate any existing decay in the wood that may be present before the pressure treatment is applied.

Pressure treated wood has been around for well over 40 years and it is expected to last at least 60 years or more, based upon testing I saw some years ago at a government lab in Ottawa. This treatment is done in a factory with a large tank that can be sealed tight. The wood is loaded into the tank and then filled with a water solution containing the preservative chemicals. This tank is then "pressurized" to the required standard to force the solution into the wood. The color of pressure treated wood solution is green; however tinting PTW to a brown shade became popular 2-3 years ago. In fact, this color will fade over time and become similar to the green PTW. The surface of most PTW has small slits in the face of the wood. This is called "incising" and is done to increase the amount of preservative that will soak into the wood during pressure treatment, adding some additional life span to the PTW. Both the brown and green color will fade, but this will not have any detrimental effect on the durability of the PTW.

I admit to being a fan of natural wood for decks and my preference is Ontario white cedar. White cedar has natural fungus-toxic within the wood itself. I like the grey tone that white cedar turns to very quickly, usually within a year after

installation. You can stain both PTW and cedar to keep it looking fresh. However, once you start staining, it become a constant, every 4-6 years depending upon the quality of the stain. A product called Thompsons Water Seal has both a cleaner and protective wash coat that will bring some natural color back to cedar; it works very well in my experience. I have heard it can be used on PTW, but have no experience to confirm this.

Fences, landings and decks made of pressure treated wood will extend the life span of the installation, thereby reducing the need for replacement for at least 60 years, if assembled correctly. The frame of any deck is the same as a house. It must be correctly assembled, using the right metal plates, hangers and fasteners. Once you have the deck done, look past pressure treated deck boards to composite decking. Every 20 feet of composite decking contains about 30 pounds of material that could have conceivably ended up in your landfill. Last year, Trex, the largest manufacturer in North America of composite decking, recycled 6 million pounds of used plastic milk jugs, plastic shopping bags along with other reclaimed materials. That's an astounding amount and they are not the only manufacturer of composite decking. Last year, in the US alone, Trex sold over a billion dollars' worth of composite deck boards. Nearly all composite decking is manufactured using equal parts of waste wood and plastic, with pigments, ultraviolet inhibitors and preservatives added in. The waste wood comes from saw mills and other wood related manufacturers. This mix is then blended, heated and extruded, before it is cut to size, ready for your deck or patio.

So why did composite decking become so popular given that it is considerably more money than cedar or PTW. When it was introduced in the late 90's, it was very expensive and only came in grey. It now comes in numerous colors and surface treatments that look like real wood. The cost has declined as the popularity rose and more competition entered the marketplace. As far as maintenance goes, other than a quick wash once a year or so, there should be no other maintenance for many years. No splinters, cracks or warped boards to replace either. They never rot or attract wood boring insects and you can go barefoot much of the time. The only real down side is that it scuffs from moving garden furniture and pet claws will mark it. if your shoes have any sort of gravel or sand in the soles, it will scratch, leaving a gritty sand paper like marks. Some of the lower end composites will stain if food or grease comes in contact with the wood fibers. Darker colors do heat up more in the hot summer sun, making it not as bare foot friendly; flip flops needed in this case.

I admit to being a fan of natural wood for decks and fences. However, with the advent of better, safer pressure treated wood and composite decking, I recognize the long term environmental benefits provided by these products are hard to ignore. Understanding the importance of how we use and care for our natural resources, such as our forests, is part of our awareness in the reduction of waste.

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