

Reuse Options for Preservatively Treated Wood

Millions of pounds of chemically treated wood end up in our Nation's landfills each year. In addition to wasting this wood resource by throwing it away, it is also posing a future chemical contamination problem. Although some of this treated wood has reached the end of its usefulness, much of it has a significant residual life. This is especially the case with wood from wood decks. Most wood decks in this country (an estimated 30 million exist) are built using treated wood for protection against wood decay and termite attack, and thousands are torn down or have their surface decking replaced each year. This research effort is investigating ways to better utilize and extend the life of preservatively treated lumber salvageable from these structures.

Background

Wood decks, which represent a very popular form of outdoor living space common to many residential dwellings, typically utilize treated wood for protection against wood decay and insect attack. Unfortunately, many thousands of decks are torn out or the decking replaced each year, not because the chemical treatment failed to prevent decay or insect attack, but because of degrading appearance, surface checking, increased maintenance requirements, or other non-strength-related issues. The resulting short life of residential wood decks results in the generation of millions of pounds of treated waste wood destined for our Nation's landfills. Estimates suggest that by 2020, we will be disposing of nearly 20 million m³ of treated wood per year. Finding uses for this wood would help extend the life of wood materials and reduce that amount of chemicals ending up in our landfills.



Millions of pounds of preservatively treated wood (the green lumber above) is disposed of in our landfills each year.

Objective

This project focused on developing reuse options for treated decking lumber destined for the landfill. Agricultural and utility storage buildings are typically constructed using nail-laminated (nail-lam) posts manufactured using treated wood. This research focused on investigating the engineering feasibility of using recovered wood decking to construct these industrial nail-laminated posts.

Approach

Experimental engineering tests have been performed on nail-lam posts manufactured from salvaged decking lumber, and various post configurations, adhesives, and other construction factors have been evaluated.

Expected Outcomes

Results of this research confirmed the engineering feasibility of using reclaimed treated wood decking as a

source material for the manufacture of nail-laminated posts used in agricultural and utility structures.

Timeline

This research effort began in December 2010 and will be completed by December 2013.

Cooperators

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