



New Engineering Standard Published for Moisture-Control Design Analysis

An engineering standard developed over the past 13 years by an international committee chaired by now-retired FPL scientist Anton TenWolde has recently been published. The standard, ANSI/ASHRAE Standard 160-2009, *Criteria for Moisture-Control Design Analysis in Buildings*, embodies a quantitative, performance-based approach to moisture analysis for evaluating building designs. Questions about design features such as the need, type, and placement of vapor barriers cannot be answered objectively or consistently without specifying the interior and exterior conditions that the building is expected to sustain without negative consequences to itself or its occupants. The standard provides criteria for selecting design parameters, such as initial moisture levels in building materials, interior temperature and humidity, air pressure differences, and exterior weather loads, such as wind-driven rain that affect the building envelope. The standard also gives criteria for selecting analytical procedures and for evaluating moisture performance. More info is available at <http://www.ashrae.org/pressroom/detail/17143>

Partnership with Department of Defense Aims to Solve Ammunition Problem

The Department of Defense is using the Forest Products Laboratory's (FPL) expertise and problem solving skills in biopolymer chemistry, adhesives and analysis to solve an ammunition problem. Gum arabic, a natural product from the trees of Acacia Senegal, is used as a binder in the manufacture of small and medium caliber primer pellets. Because gum arabic comes from a natural source, variations in the gum's physical, chemical and mechanical properties may lead to misfiring of the bullets.

This project has extensively measured many physical and chemical characteristics of gum arabic that may relate to the misfiring problem. Recent effort has been devoted to identification of synthetic replacements for gum arabic, with FPL developing new ways to evaluate binders with non-reactive materials to greatly limit the number of expensive tests with the explosive primer formulation. Following testing of these inert samples, FPL researchers selected five synthetic options and recommended them to ATK Armament Systems who will now move forward with testing of live materials.

This goal is being carried out through an industry/government Integrated Project Team consisting of members of Project Manager-Maneuver Ammunition Systems, Armament Research, Development and Engineering Center, Joint Munitions Command, Forest Product Laboratory and Alliant Tech Systems.

Foreign Patent Awarded for Use of Naphthalenic Compounds in Termite Baiting Systems

In-ground termite bait stations have become the standard for control and suppression of subterranean termites. Agriculture Research Service (ARS) and Forest Products Laboratory (FPL) researchers have received Canadian Patent #2,484,126 entitled "Naphthalenic compounds as termite bait toxicants" for the addition of chemical components e.g. N'-N-naphthaloylhydroxylamine (NHA) to termite bait stations which act as feeding stimulants. Addition of these compounds results in termites consuming twice as much of the termiticide contained in the cellulose bait, often a chitin synthetase inhibitor. FPL researcher Frederick Green III is a co-inventor on this patent, along with Maria Guadalupe Rojas and Juan Morales-Ramos of ARS.

Patent Awarded to FPL Researcher

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Zhiyong Cai, materials research engineer at the Forest Products Laboratory was recently awarded U.S. Patent No. 7,571,061. Titled "Non-Destructive Method of Measuring a Moisture Content Profile Across a Hygroexpansive, Composite Material," this invention increases product quality, consumer confidence, and manufacturer profits by providing a non-destructive way to measure moisture content over time across a composite material.

Green Building Workshop Series

The Forest Products Society is promoting a Green Building Workshop series entitled "Going Green without Going Crazy." The workshops will be held in the Lakes States and online this fall. **Each workshop will provide participants with information to understand green trends impacting the building sector and how companies can benefit from them.** From explaining the national and regional green building programs to providing the details needed to make decisions, participants will walk away with greater understanding, greater confidence and greater marketing potential. For more information, visit www.greenworkshops.org

And finally...

Forest Products Laboratory to Celebrate 100 Years of Research

FPL will officially be celebrating its centennial on June 4, 2010. Notices about special events and products will be distributed throughout this year and next to commemorate our many scientific achievements. We will also be sharing noteworthy historical accomplishments and items of interest in both FPL News and NewsLine, our lengthier quarterly newsletter.

In preparation for the centennial, an oral history project was completed in cooperation with the University of Wisconsin-Madison (UW). Fifty-two current and former FPL employees were interviewed by students in the UW's Oral History Program to document the Lab's history of promoting healthy forests and forest-based economies through the efficient, sustainable use of wood. Audio recordings of the oral histories are posted at: <http://digicoll.library.wisc.edu/FPLHist/>



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