

WSU PUYALLUP HIGHLIGHT

January 21, 2005

WSU Energy Program's Hygrothermal Research Project

The Washington State University Natural Exposure Test facility (NET), constructed in 2003 on the Puyallup Research and Extension Center campus, monitors the heat moisture transport characteristics of building systems. The 12 wall systems were selected to demonstrate a variety of building methods designed to provide improved performance. The recording devices in the building collect the data, which is then automatically transmitted to a server at WSU Puyallup and can be accessed by the WSU Energy Program in Olympia. The sophisticated data acquisition system provides hourly data on the performance of the test walls. Numerous sensors measure the moisture content of building materials, vapor pressure, temperature, humidity and condensation in each wall cross section. Materials included in the study are insulation systems, vapor control materials, cladding ventilation, and sheathing materials.

The goal of the Hygrothermal Research Project is to develop and implement a unique systems engineering approach to designing energy efficient and moisture tolerant wood frame building assemblies in the climate of the Pacific Northwest. Results of the project will create an understanding of building component relationships within a wall system and how they influence hygrothermal performance. With this information, building professionals and component manufacturers will be able to scientifically design buildings and products that are directly responsive to natural and conditioned environments.

Partners for the project:

WSU Energy Program, WSU Wood Materials and Engineering Lab, Oakridge National Laboratory, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Weyerhaeuser, American Plywood Association, Certain Teed Corp., Fortifiber Corp., WSU Puyallup REC



For more information on this project, go to: <http://www.energy.wsu.edu/projects/building/moisture.cfm>

Weekly Highlights provided by the people and programs of WSU Puyallup. To include a highlight in an upcoming announcement, please contact either Heather Schriver, hschriver@wsu.edu, 253-445-4504, or Jon Newkirk, jnewkirk@wsu.edu, 253-445-4568

If your email is set to text messages only and you wish to see the graphical version of this Highlight, please email Heather Schriver, hschriver@wsu.edu and she will send this Highlight as an attachment.