If you need a new product developed or an existing product refined, we are the ones to call. The MSU Department of Forest Products has state-of-the-art facilities to meet industry needs. The facilities include over 90,000 square feet housed with analytical and testing equipment and pilot plants.

Work can be performed under a number of arrangements from contract research to complete product development for industrial plants. We also have the ability to perform confidential work.

Resin Synthesis Laboratory

- Muffle Furnance
- Viscometers
- Constant Temperature Bath
- Non-Volatile Oven
- Gel Time Testers
- Low-shear Hobart mixer
- High-shear Cowles Dissolver
- Gel Permeation Chromatograph/ Viscotek Detectors
- Gas Chromatograph
- Thermogravimetric Analyzer
- Dupont DAM 983
- Light Scattering HPLC
- Dynamic Mechanical Analyzer
- Total Hydrocarbon Analyzer
- 1200 c Tube Furnace

Glue Laminated Timber

- Lumber manufacturing shop
- Cold presses to 40 ft. length

Particleboard/ Strandboard Line

- 8 in. x 8 in. Hammermill
- 3 Drum Blenders
- Coil Resin/Wax High Sheer Atomizer
- 26 in. x 26 in. Williams White Electric Hot Press (338t)
- 34 in. x 34 in. Automated Dieffenbacher Hot Press
- Ro-Tap sieve shaker
- CSC Moisture balances
- Scissor Lift Table with foot pedal

Plywood Manufacturing

- 26 in. Black Brothers roll coater
- 18 in. x 18 in. Cold Press (1.5t)
- 6 in. x 6 in. Carver presses
- 24 in. x 24 in. Clifton double opening hot press

Scientists available to assist you within the department include:

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MISSISSIPPI STATE UNIVERSITY™

COMPOSITES

DEVELOPMENT AND TESTING

Mississippi State University
College of Forest Resources
Forest and Wildlife Research Center

Introduction

The Department of Forest Products in the Forest and Wildlife Research Center at Mississippi State University has worked with industry, universities, and government agencies in composite and adhesive development for over 40 years. Through research, scientists have improved board properties, reduced manufacturing costs and developed alternative resins and resin application systems. Proprietary research is also available.

Manufaturing Capabilities

Raw Materials:

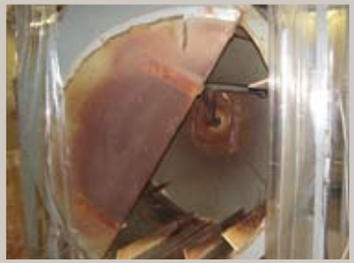
Scientists can assist with raw material preparation. Facilities are available for producing and screening fiber, flakes, and scrim. Veneer-based products can be pressed and evaluated.

Fiber Material Drying:

Several dryers are on site to dry particles, flakes, scrim, or veneer.

Resin Application:

Facilities to apply resin to lumber, veneer, flakes, particles or scrim are on-site. A roll coater is available for lumber and veneer-based products and drum blenders are available for OSB, particleboard, and flakeboard. A large drum blender is also on hand with a high rpm Coil atomizing spinning disk for resin application. The large drum blender has a ventilation system that is compatible with MDI resins.



Product Lay-up:

Veneer-based product lay-up is done by hand. Particleboard product mats are formed in a deckel box before pressing. Oriented strand products are also formed in a deckle box but the strands can be oriented for each layer using the strand layer orientation device.

Product Pressing:

Scientists can replicate most commercially-produced products utilizing hot and cold pressing technologies. Two screw presses are available for cold laminated beams. Hot presses that heat thermoset resins using platen heat only, a combination of steam injection and platen heat, and a combination of steam environment and platen heat are available.