



4

EASY STEPS

TO MAXIMIZE YOUR PROFIT WITH PROPER VENEER GRADING AND QUALITY CONTROL

Raute analyzers offer a complete solution to let you get the most from your plywood production. Understanding veneer quality and then sorting the veneers properly are key steps for successful operations. This article highlights some of the most important factors in assessing veneer and panel structural properties, and introduces Raute analyzers which make testing easy, accurate and efficient.

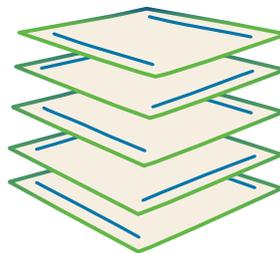
STEP 1
STRENGTH



STEP 2
VISUAL



STEP 3
LAY-UP



STEP 4
QC



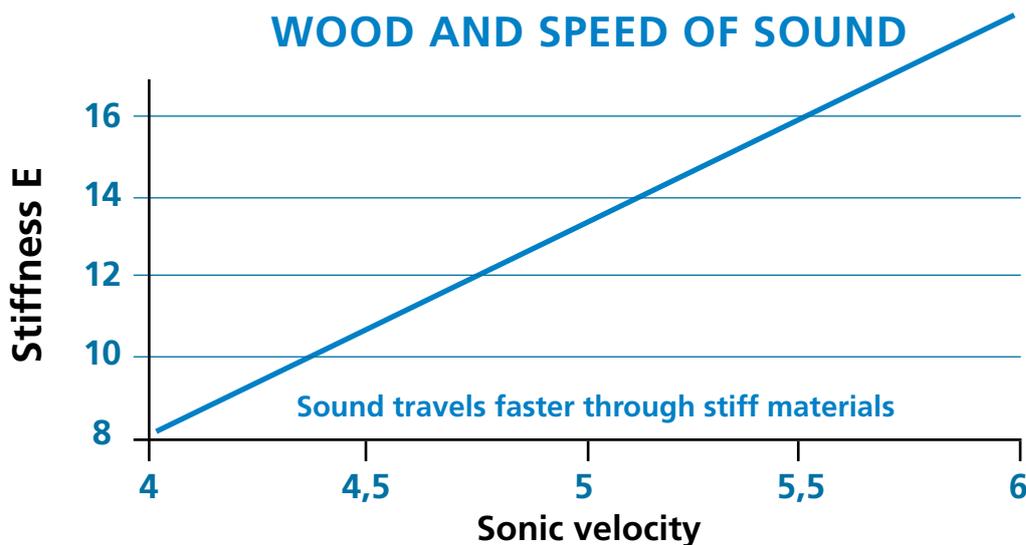
Creating value in forest assets

Step 1 Veneer strength grading

The purpose of veneer grading is to secure that end products meets market requirements and to maximize income from the veneer volume in production.

Veneer strength grading is the perfect solution for achieving and maintaining the required structural properties of your plywood. Raute's veneer strength grading systems are based on a method which measures sound velocity through the veneer in the fiber direction. This can be done right after the dryer or on a separate grading line, and the result of the measurement correlates to the stiffness of the veneer (see picture). The number of different strength grades can be adjusted based on the needs of your production. The minimum is two different grades, but the most common method is to sort veneers into three different strength grades.

Raute Veneer Strength Analyzer R7 - Sonic Velocity is perfect solution for strength testing veneers using separate offline grading. It measures the strength of the veneer using separate grading line that is not connected to dryer.



Step 2 Veneer visual grading

Strength grading alone is not enough to determine the veneer grade and that is why visual grading complements the grading results and gives the best overall result.

Visual grading of veneer is an important phase in the production process, because most plywood standards have set rules about which type of defects are allowed in each veneer grade. Visual grading can be done by either human eye or with automatic scanning systems.

Doing visual grading after strength grading allows you to separate veneers into further categories of specific visual and strength grades. This enables you to optimize the lay-up of plywood panels based on the needed plywood face veneer quality and plywood strength.

Raute's offering of analysers covers also visual grading systems for all process steps from peeling to panel repairing.

Step 3 Plywood Lay-up structures

When veneers are strength graded and visually graded it is possible to optimize both plywood strength and visual properties. With these methods, it is possible to choose stronger veneers for structural panels and to ensure that the required standards are fulfilled. In addition, it enables you to make high strength specialty panels.

A key point is to select the correct veneer for each product need. By applying this proven method, higher grade and stronger veneers can be used for high quality panels, and for panels that need to fulfill structural panel standards, like PS 1-09 in the US market and JAS standards in Japan market. Stronger veneers in the outer plies of the lay-up process ensure maximum strength for plywood.

Choosing veneers with similar strength properties to both sides of the plywood lay-up also minimizes the warping of the plywood panels.

Step 4 Quality control

To validate and verify the output of your production, and to meet performance-based standards, it is important to have a quality control program. One essential element in quality control testing is the ability to measure panel stiffness.

The Raute Panel Bending Tester - Offline is specially designed to test plywood panel structural properties. It uses off-line testing methods to record panel deflection and ultimate load at failure (MOR). These methods give you the data you need to ensure that your plywood panels are in compliance with standards. By making sure that your products meet the standard requirements, you can demonstrate to authorities and to your customers that your production quality is consistent and complies with the certification process.



Summary

Raute's veneer grading and panel testing solutions provide easy ways for plywood manufacturers to check that they are getting the most from their raw materials and help them ensure that their end products meet the required quality standards. Whether you need to grade your veneer or verify the quality of your finished products, Raute has a solution that can help you profit more.