



## Working with PlybooStrand® Plywood

### Receipt and Preparation:

All product should be inspected upon arrival to confirm the condition of the material, that there is no freight damage and that the product conforms to the order. Bamboo will naturally vary in color and this is to be expected. For this reason, all panels to be used should be color paired for best effect. If panels are to be stored prior to working, leave the panels in their protective packaging and stack horizontally. Prior to fabrication, sheets should be checked for moisture. If the panels need to be acclimated, un-bag and stack horizontally with spacers to allow proper air circulation to occur. Consider the relative humidity (RH) and temperature of the final installation site to establish the appropriate moisture level of the panel prior to working, sealing and finishing.

### Construction of PlybooStrand Material:

PlybooStrand material differs from standard Plyboo® material in the processing of the strips and the manufacture of the base material. To explain the full process would be more involved than this document allows, but a basic understanding of the material is still helpful. Strand strips are produced rough and then crushed to open up the material for better adhesive saturation. The strips are submersed in adhesive, dried, and pressed into dense blocks that are then balanced, sliced, and kiln-dried before they are ready for processing. The process to produce the PlybooStrand material from which our panels are made takes approximately 6 weeks to complete.

### Construction of PlybooStrand Panels:

The most common is our three-ply construction that has been in use since 1996. This construction employs a perpendicular core running the width of the panel. The core is constructed of multiple strips of standard bamboo material. These strips are laminated into a single-piece core board. The surface plies are assembled of strand face board strips that are approximately 4 1/16" in width and are laminated side-to-side and sanded to dimension, then laminated to top and bottom completing the three-ply construction.

Our PlybooStrand Squared product is a five-ply construction that employs our standard three-ply construction as a core and the PlybooStrand Squared face plies are applied top and bottom to complete this design.

### General Rules of Usage:

The three-ply construction, like all cross-ply constructions, are designed for greater stability. The three-ply construction is also the most popular for its versatility of application. Uses for this panel include, cabinetry, shelving, store fixtures, furniture and wall panel systems.

Our PlybooStrand, five-ply, Squared sheets due to their greater thickness and weight are best for treatments such as table or counter top surfaces. As this material is more sensitive to RH swings, an epoxy resin sealing system may be used for greater resistance to changes in RH. As with any other site-applied finish, you should check and verify compatibility between your finish system and the product surface before proceeding with your work.

If you have further questions about a specific use or application for PlybooStrand bamboo plywood, please feel free to contact our technical support department.

**Moisture and Humidity:**

PlybooStrand panels are manufactured to an average moisture content of 6 to 9%. However, due to environmental conditions, the product you receive may vary. It is recommended that before working a panel that a moisture reading be taken. If acclimation is necessary, this should be performed prior to working the material and should take into consideration the environment and the application at the final installation point.

PlybooStrand panels, like wood products, will expand and contract with changes in relative humidity (RH). The greater the seasonal change, the greater the potential for movement.

For best performance, a temperature range of 45–75 degrees Fahrenheit, and a relative humidity of 35–65%, should be maintained throughout the year. In areas with a wide seasonal variation in RH and temperature, every effort should be taken to adhere to the recommend ranges. Exceeding these ranges can result in unwanted movement including checking, cracking and warping in some cases.

For further information on relative humidity, moisture and wood, please refer to the AWI Architectural Woodwork Standards – First Edition, October 1, 2009, appendix B, page 453. Note AWI recommends an RH range of 25-55% for wood products where Smith & Fong recommends a range of 35% to 65% for bamboo.

**Fabricating with PlybooStrand:****Tools:**

PlybooStrand panels can be worked like a wood product using the same techniques and equipment including hand and shop tools as well as CNC machinery. If you are working the material in a way that you are uncertain with, first test the method to confirm that the method and the material are compatible. If you have questions, please contact our technical support department.

**Fasteners and Adhesives:**

PlybooStrand panels work well with most methods of fastening. This includes, joinery, screws, brad nailing and clamp and glue methods. Please note however that due to bamboos' greater hardness and less give that screws should be pre-drilled and that hammer and nail should be avoided. All wood glue types are acceptable for use with PlybooStrand.

**Sanding:**

PlybooStrand panels can be sanded like a wood product using the same materials and equipment including standard sandpaper, hand sanders and shop or industrial sanding equipment. Note however that PlybooStrand is more dense and hard and may have greater porosity than most wood products and for this reason may require additional sanding and filling to achieve desired results.

**Finishing:**

PlybooStrand can be finished using conventional methods and materials that include hand-rubbed, spray, brush, dip applied or industrial roll or flow coating equipment with a UV cure system. All standard finishes ordinarily work well, but you should always check for compatibility, including by testing the finish on a sample piece. Because Smith & Fong cannot test the compatibility of every finish system available on the market, the ultimate responsibility for finish compatibility rests with the user. When applying a wax finish it is recommended to first apply a hard-drying seal coat.

When working with the Squared product in high RH swing environments an epoxy resin sealing system may be used for greater resistance to changes in RH. As with any other site-applied finish layer, you should check and verify compatibility between your finish system and the product.

**Additional Notes**

PlybooStrand is designed for interior use only. PlybooStrand is not a structurally rated sheet good. Smith & Fong cannot take responsibility for inappropriate applications or environmental conditions. If you have further questions about a product or specific application, please feel free to contact us for further information.