Product & Technical Guide

Gator-Ply® Luxcell® Syn-Ply®
The Premier Collection of Specialty Engineered Wood-Fiber Veneers

GATOR-PLY® backers, SYN-PLY® crossband, and LUXCELL® facer products are discussed individually on the following pages. Technical support and processing are covered in this brochure. For additional information and the most current product availability, visit us online at:

www.gatorply.com
www.synply.com
www.luxcell.com

To contact your 3A Composites USA sales representative, technical service representative, or customer service representative:

Phone: (800) 626-3365
FAX: (704) 878-2708
Email: orderdesk@3acomposites.com
We are proud to offer the following technical information for your review and to assist in any product processing support.

**GATOR-PLY®** - The original specialty engineered man-made wood fiber veneer for backing.

**SYN-PLY®** - The original specialty engineered synthetic cross-band for 5-ply panel construction.

**LUXCELL®** - The specialty engineered man-made wood fiber veneer facer for painting and printing.

**GATOR-PLY® GREEN GATOR-BACKER™** - No formaldehyde backer that has achieved GREENGUARD Gold Certification.

**GATOR-FLEX®** - NAF flexible backer for 2-ply veneer applications.

**NEW! GATOR-PLY® HP** - high performance, wood-fiber veneer backers developed for improved overall performance and a low Water Vapor Transmissions Rate (WVTR), and achieves GREENGUARD Gold Certification.

All GATOR-PLY®, SYN-PLY®, and LUXCELL® products are FSC® Certified.

Certificate Code: SCS-COC-003108
Controlled Wood Code: SCS-CW-003108

Please do not hesitate to reach out with any questions or concerns you may have or if we can be of any further assistance. CUSTOMER SERVICE 877-424-9860.

Because we exercise no control over the way in which our products are stored, handled, or used after shipment from our premises, no warranty, expressed or implied, is made as to the effects of their use. Our products are offered in good faith and our representatives are available to help the customer obtain the best results based on information and tests believed to be reliable. Our only warranty obligation is to replace or accept return of material which we have determined to be defective. 3A Composites USA makes no warranty of any kind, expressed or implied, including without limitation any implied warranty of merchantability or fitness for a particular purpose. No person is authorized to make any representation or warranty on behalf of 3A Composites USA and any statement shall not be binding.
GATOR-PLY®, SYN-PLY® and LUXCELL® comprise three unique product lines of specialty engineered man-made wood-fiber veneers for the furniture and display fixture markets.

GATOR-PLY backers are low formaldehyde and NAF specialty engineered man-made wood-fiber veneers. They are impregnated with a proprietary resin system and possess certain characteristics that allow them to be used successfully as a balancing medium in both three-ply and five-ply panel constructions. Although many panel producers attest to its usefulness, it must be recognized that it is a manufactured product with its own special characteristics that aren’t the same as those of wood veneer or high-pressure laminate. GATOR-PLY is not to be used as a substitute for SYN-PLY synthetic crossband material. GATOR-PLY can be used in either hot or cold press operations.

NEW! GATOR-PLY HP are high performance, wood-fiber veneer backers developed for improved overall performance and a low Water Vapor Transmissions Rate (WVTR). The sealed surface of GATOR-PLY HP backers provide enhanced product handling when used to back both HPL and finished wood veneer in three-ply and five-ply panel constructions. GATOR-PLY HP backers also achieve GREENGUARD Gold Certification.

GATOR-PLY GREEN GATOR-BACKER™ is manufactured with an alternative resin system with no VOC or added formaldehyde. It achieves GREENGUARD Gold certification as a product for improved indoor air quality.

GATOR-FLEX® - is a flexible synthetic backer designed for increased tensile and internal bond strength for use in two-ply veneer constructions. Flexible yet strong, it can be used in curved or flat applications and offers outstanding handling characteristics as well as enhanced tensile strength that results in ease of use, less breakage and superior performance.

SYN-PLY, the synthetic crossband, is a specialty engineered man-made wood-fiber veneer. This material is impregnated with a proprietary resin system and has certain characteristics that allow it to be used successfully in five-ply panel construction.

LUXCELL facers are specialty engineered man-made wood-fiber veneers designed for printing or painting by the furniture manufacturer. They are impregnated with a proprietary resin system and possess certain characteristics that allow them to be used successfully as a balancing medium in both three-ply and five-ply panel constructions. LUXCELL can be used as both a facer or a backing material, and while many panel producers attest to its usefulness, it is important to note that its own special characteristics are not the same as those of wood veneer or high-pressure laminate. It is not to be used as a substitute for SYN-PLY.
Better yields than wood veneers
• Omni-directional product that lays up in any direction
• Superior color uniformity for consistent appearance
• Custom sizing: stock sheets or cut to your specification
• Minimizes inventory, labor, and waste

The following are standard sizes for most products. Please call your sales or customer service representative for exact availability. Standard skid quantity for all products is 250 sheets.

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Unsurpassed Performance Benefits

Additional Product Information

• Class A flame spread rating
• Product dimensional changes are equal to or less than 1% of gross dimension in both directions
• Density of products is 40 lbs. per msf +/- 10%
• Look for our FSC® & GREENGUARD Gold Certified products

Phone: (877) 424-9860  FAX: (704) 878-2708  Email: orderdesk@3acomposites.com
GATOR-PLY & LUXCELL are easy to use because they accommodate all normal lay-up, trimming and shaping operations commonly practiced in the furniture & cabinet industries. GATOR-PLY backers work with either particleboard or medium density fiberboard (MDF), but should not to be used as a substitute for crossband material that can be used in 5-ply applications. LUXCELL facers can be painted or printed by the furniture manufacturer, enabling the manufacturer to produce a specific furniture color or pattern. LUXCELL works with particleboard or MDF, but is not to be used as a substitute for crossband material in five-ply applications.

Lamination

GATOR-PLY and LUXCELL may be used with normal adhesives such as Urea Formaldehyde and PVA in cold-press or hot-press applications, but hot press typically provides the best result for finishing. When working with GATOR-PLY HP, it is important to keep the coated side of the sheet facing out and away from the core material. We recommend the following for maximum results:

**Cold Press**

| Solids: | 45% minimum          |
| Glue Spread: | 22 - 30 lbs. / MSF / side |
| Lay-Up/Assembly Time: | 5 - 20 minutes (adhesive dependent) |
| Stacking: | Face-to-face stacking is preferred although not always necessary |
| Press Pressure: | 25 - 150 psi depending on components |
| Press Time: | 30 minutes minimum (adhesive dependent) |
| Cure Time: | 24 hours minimum before machining (Industry recommended) |

**Typical Cold Press Set-Up**

- Core Stock
- Glue Spreader
- Lay-Up/Transfer Conveyor
- Cold Press
- Laminated Stock
Hot Press

Solids: U.F. 60-65%
PVA 45-55%

Glue Spread: 22 - 35 lbs. / MSF / side

Lay-Up/Assembly Time: 5 - 45 minutes (adhesive dependent)

Stacking: Face-to-face stacking is preferred although not always necessary

Press Temperature: U.F. - 270° F short cycle; 240° F long cycle
                  PVA - 240° F short cycle; 220° F long cycle

Press Pressure: 100 - 125 psi

Press Time: ¾ minute to 1½ minutes - GATOR-PLY short cycle
            1½ minutes to 3 minutes - GATOR-PLY long cycle
            1½ minutes - Luxcell short cycle
            3 to 5 minutes - Luxcell long cycle

Cure Time: 24 hours minimum before finishing

Feed Through Press

Core Stock  Glue Spreader  Feed Through Press  Outfeed Conveyor  Laminated Stock
Panel Cleaner

Standard Plywood Press

Core Stock  Glue Spreader  Transfer Conveyor  Laminated Stock
Panel Cleaner
SYN-PLY crossband adds convenience because it can be used with normal manufacturing equipment such as standard plywood and feed-through presses as well as with normal adhesives like Urea Formaldehyde and polyvinyl acetate (PVA)*. It is used in five-ply panel applications where a lumber-banded core is used, but can also be used on solid cores that are within acceptable industry standards in construction, moisture, and thickness. SYN-PLY is typically fed through a conventional glue spreader where glue is applied to both sides of the material and then placed in between the backer and core and the facer and core, creating a 5-ply construction. It is critical that the glue rolls are in good condition to ensure that glue spread is applied evenly to both surfaces of SYN-PLY. Depending on the type of press used, the construction is then placed or fed into the press and pressed for 2-5 minutes at 200-270°F. The press time is determined by the curing reaction of the glue used. We recommend not to go below 2 minutes on press time, but press pressure can be reduced to the lowest level possible in order to reduce the possibility of telegraphing of core imperfections. Caution should be taken to make sure panels are adhered after pressing when pressure is reduced. After the panels are pressed, normal stacking procedures are recommended. See Figures 1 and 2.

*It is recommended to consult with your glue supplier for optimum viscosity while running SYN-PLY.

**Typical Hot Press Process:**

*Feed Through Press*

- Crossband
- Glue Spreader
- 5-ply Constructions
- Transfer Table
- Feed Through Press
- Outfeed Table
- Laminated Panels

**Multi-Opening Press**

- Crossband
- Glue Spreader
- 5-ply Constructions
- Transfer Table
- Multi-Opening Press
- Laminated Panels

Figure 1

Figure 2
**Trimming and Shaping**

GATOR-PLY, LUXCELL, and SYN-PLY are engineered to provide cleanly shaped edges on adequately cured cold- or hot-pressed panels; if trimmed edges should result in fuzz, the condition may be caused by:

A) Inadequate glue-line cure time. Excess moisture from non-dried glue accumulated near the panel edges may temporarily soften the edges thereby preventing a clean blade cut.

B) Dull trimming or shaping tools. Where saws or tool heads are excessively worn down, nothing can prevent chipping or fuzz on surface materials.

C) “Oscillating” tools or “out of true” saws also contribute to uneven edges regardless of tool sharpness.

**Properties & Panel Stability**

Industry experience indicates that two of the most important properties needed in a backing sheet are:

A) Mechanical tensile strength to help stabilize core stock in a multi-ply panel.

B) Impedance of rapid moisture-level transmission to enable all panel components to reach equilibrium slowly, thus minimizing the tendency for warping and cupping in the field.

**Storage**

Ideally, GATOR-PLY, SYN-PLY, and LUXCELL should be stored in the same area as the cores and facers to allow each to reach equilibrium at the same relative humidity. This tends to minimize differences in expansion and contraction characteristics between panel components once they are combined. Storage areas should not have excessive temperatures (hot or cold) or moisture.

<table>
<thead>
<tr>
<th>BACKER CHARACTERISTICS</th>
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<td>Backers</td>
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<tr>
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PRODUCT APPLICATIONS

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Photos Courtesy of Geiger International