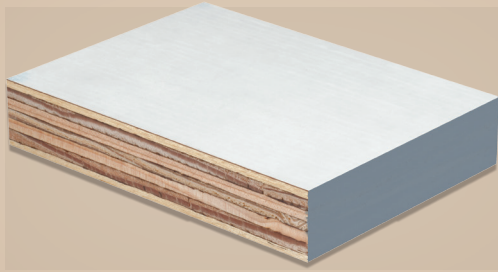




# BARRIER FILM®

Concrete Form



- Designed for high alkaline/aggressive concrete mixes
- Recommended in tables, gangs & engineered systems
- Eliminates tiger striping/patch transfer
- Enhanced panel stability using SwanPeel®, SwanDry™, and SwanPatch™ Technologies
- White surface reflects heat for controlled pours



**Swanson Group® provides the highest proven performance in conform panel solutions.** Customers recognize our exceptional history of performance, exhibited in our panel solutions, including the first HDO/MDO "combi" panels in North America. Swanson works directly with customers to establish relationships based upon market needs, panel design properties, overlay technologies, and application experience. We are now enhancing our capability to provide superior panel performance. **Swanson is manufacturing in a new state-of-the-art facility which is the most sophisticated overlay panel facility in North America.**

### Product Description:

Barrier Film® is an exclusive, premium, polymeric, white overlaid plywood with superior alkalinity resistance and exceptional durability for glossy finishes.

### Panel Construction/Moisture Resistance:

Barrier Film® is constructed of polymeric, white overlay on dense proprietary hardwood faced plywood using SwanPeel®, SwanDry™, and SwanPatch™ Technologies. The panel is balanced with a HDO backer sheet. It is manufactured with a two-step® layup, has a waterproof glue bond and meets performance requirements of PS1. All Swanson products are made in the USA.

### Working Faces/Treatment:

- Barrier Film® is available with one working face and a HDO backer sheet
- Gloss level of concrete surface: gloss
- Wood grain transfer to concrete surface: slight
- Wood defect transfer to concrete: minimal—no football patches
- Sugaring: none
- Maintenance: limited

### Working Edges/Treatment:

- Factory sawn and sealed with special, gray, styrene acrylic sealer
- Seal all exposed wood (edges and holes) with Edge-Flex 645 by Nox-Crete, Swanson Form Seal by Willamette Valley Co. or equivalent to prevent concrete staining from the wood sugars

### Alkalinity Resistance After Chemical Exposure

270



The Abrasion and Chemical Resistance Test reflects the expected panel life in the field. The higher the index number, the more resistant to alkalinity/abrasion.

### Structural/load Performance Summary

Barrier Film® is available with custom load tables (V405). Allowable pressure  $\ell/270 \frac{3}{4}'' @ 12'' OC$  (face gain across supports): Struct 1 - 1,085 PSF

### Typical Pour Ranges:

- Engineered systems: up to 225 pours
- Gang forms: up to 100 pours
- Job built: up to 75 pours
- Pour ranges are not guaranteed because the number of pours will vary due to jobsite handling and panel maintenance, vertical or horizontal use, form release agent, concrete mix design/strength, alkalinity, pour rate and other factors

### Release Coating:

- Release agent: Not factory treated
- Coating required: light before first and each subsequent pour
- Recommended release agent: Nox-Crete Release Agent #10 (oil based), Bio-Nox (water based and readily biodegradable) or equivalent.
- Special applications or use requirements may dictate the need for alternative release agents. Contact Swanson Group Sales, Nox-Crete or alternative manufacturer for more information.

### Other Applications:

- Pallets, bins, totes, crates, reels
- Tanks, vats, freezer liners, storage lockers, trunks and shelving
- Animal enclosures, farm buildings and equipment

### Limitations:

Do not exceed design limitations imposed by the load span table. Conform to concrete form design procedures based on American Concrete Institute (ACI) standard 347-04. Release agents are required. Do not employ used concrete form for structural applications. Do not coat or laminate this panel without surface preparation. For coating or laminating information, ask Swanson Group® for technical assistance.

### Thicknesses & Sizes:

Barrier Film® is available in: 3/4" & 1-1/8". Standard panel sizes are 4' X 8'. Non-standard thicknesses, widths and lengths meeting volume requirements are available.

### Technical Data Applicable Standards

All panels are manufactured by Swanson Group® per product standard PS1-19. This standard is available at [www.apawood.org](http://www.apawood.org).

Physical Properties	11/16" to 1-1/8"
Check Resistance – APA Test #6	.6 mm
Moisture Resistance (Cobb) 8-hour Soak	1.42 g/sq. ft.
Alkalinity Resistance After Chemical Exposure D/T	270
Formaldehyde Level ASTM E-1333	0.01 parts/million

Panel Tolerances	11/16" & Greater
Thickness Tolerance	+/- 5%
Length & Width Tolerance	+0, -1/16" (.062")
Squareness	1/16" (.062")
Straightness	1/16" (.062")

Note: All tolerances and specifications apply at the time of manufacture.

Note: Product averages vary for individual thicknesses. Consult sales or technical offices for exact properties.

## Standard Packaging:

Thickness	Barrier Film® 1 Side/HDO Back Average Weight* lbs./Panel	Pieces per Unit
3/4"	80.3	44
1-1/8"	112.3	30

\*Average product weights may vary +/- 10%

## Product Grade

Standard product is shipped on grade only. Special product is shipped allowing up to 10% total Good One Side (G1S) and/or Shop, identified & priced separately. Shipments of G1S and shop may be available.

## Stress and Load Span Tables

These stress and load span tables simulate actual wet form conditions Dry load span values are overstated and should not be used. Canadian (COF) design values for Douglas Fir are 25% higher than APA.

**Wet Stress Tables:** Tables 1 & 2 are based on standard APA and PS-1 criteria.

Stress Table – Wet, Working Stress Design Capacities	Two-Step® Struct 1 V405	
Nominal Thickness	3/4"	1-1/8"
Number of Plys	7	11
Table 1: Face Grain <i>Perpendicular</i> to Supports <sup>1</sup>		
Bending Stiffness <sup>1</sup>	315,338	1,084,395
Bending Resistance <sup>2</sup>	802.1	1,840.7
Planar Shear <sup>3</sup>	396.5	551.2
Table 2: Face Grain <i>Parallel</i> to Supports <sup>1</sup>		
Bending Stiffness <sup>1</sup>	264,481	831,593
Bending Resistance <sup>2</sup>	705.5	1,403.9
Planar Shear <sup>3</sup>	368.8	526.0

<sup>1</sup>Bending Stiffness = EI\* (lb-in<sup>2</sup>/ft); <sup>2</sup>Bending Resistance = M or F<sub>s</sub>S (lb-in/ft); <sup>3</sup>Planar Shear Capacity: V or F<sub>v</sub>Ib/Q (lb/ft). There is no DOL (Duration of Load) or experience factor applied to EI, FbS and Fslb/Q.

**Load Span Tables:** Tables 3 & 4 are based on standard APA and PS-1 criteria.

Struct 1 LOAD SPAN TABLES – WET CONDITIONS Recommended Maximum PSF on Struct 1 Two-Step® V405				
Table 3: Face Grain <i>Perpendicular</i> to Supports <sup>1</sup>				
Support Spacing	Plywood Thickness – Allowable Pressure (PSF)			
	3/4"		1-1/8"	
(in.)	ℓ/360	ℓ/270	ℓ/360	ℓ/270
8"	1,845	1,845	2,755	2,755
12"	870	1,085	1,705	1,705
16"	405	540	1,035	1,235
19.2"	245	325	665	885
24"	130	170	375	500
Table 4: Face Grain <i>Parallel</i> to Supports <sup>1</sup>				
Support Spacing	Plywood Thickness – Allowable Pressure (PSF)			
	3/4"		1-1/8"	
(in.)	ℓ/360	ℓ/270	ℓ/360	ℓ/270
8"	1,845	1,845	2,630	2,630
12"	925	955	1,630	1,630
16"	395	530	1,035	1,070
19.2"	285	300	595	595
24"	145	190	380	380

Notes: <sup>1</sup>Plywood continuous across two or more spans  
These are total loads (weight of panel should be considered in horizontal applications). DOL (Duration of Load) 1.25 and experience factor of 1.30 used in load tables.  
Load duration factor of 1.25 applies to FbS and F<sub>s</sub>(Ib/Q). Experience factor of 1.30 applies to FbS and F<sub>s</sub>(Ib/Q)

**Form Panel Thickness:** For more detailed design information, refer to APA publication "Design/Construction Guide: Concrete Forming V345" and to American Concrete Institute publication "Formwork for Concrete."

**Edge Support:** In high moisture/sustained load conditions, edges may have a greater deflection than the panel center and may exceed calculated deflection.

## Suitability for Use and Warranty

Nothing herein constitutes a warranty express or implied, including any warranty of merchantability or fitness for use, nor is protection from any law or patent to be inferred. The exclusive remedy for all claims is replacement of materials.

## Warehouse Storage and Handling

- Store in a dry, clean, well-ventilated area indoors.
- Avoid temperatures and moisture extremes. Allow panels to equalize for 72 hours or more before use
- Pieces must not be stored in contact with the ground
- Limit the stacking height to four or five units. Separate units with clean, dry spacers of uniform thickness, aligned carefully. Use three spacers for panels 8' long

## Jobsite Care and Handling

1. **Product preparation:** Swanson Group's Barrier Film® panels are not factory release coated. Lightly coat panels prior to first use and each subsequent use with Nox-Crete Release Agent #10, Bio-Nox or equivalent agent that will not bond with, stain, or adversely affect concrete surfaces. Follow the manufacturer's recommendations for application.
2. **Pouring and Vibrating:** While panels are highly resistant to abrasion and impact, they can be damaged through improper use. Follow the rate of pour to reduce excessive pressure that can cause panel damage. Use rubber tipped vibrators and exercise care not to damage form faces.
3. **Stripping:** Prolong panel life with proper stripping and handling. Use wood wedges, rather than metal bars or pries, to separate the form from the concrete. Form panels must be lowered, not thrown or dropped, to avoid face and edge damage.
4. **Cleaning:** Storage and Edge Sealing—Clean panels after each use, employing burlap or flat, non-scratching tools such as plastic or wood scrapers. Reseal cut edges or exposed wood at holes or openings with two coats of a styrene acrylic sealer. Stack panels flat and remove fasteners to prevent damage and warping. Store panels in a protected area and avoid direct sunlight.
5. **Surface Repairs:** Remove form release agent, concrete & loose wood/overlay debris. Sand the damaged surface with coarse (80 grit) disc or paper. For architectural concrete, use fine (120 grit) for the damaged perimeter area. Clean all sanding debris from the repair area. Apply: W.R. Meadows - Rezi-Weld Gel Paste State, Euclid - Euco #620 Gel Epoxy System, or Sika - Sikadur AnchorFix. Use the Rezi-Weld Gel Paste State when the air temp is above 60° F, or the Euco #620 Gel or Sikadur AnchorFix-4 when the air temp is above 33° F. Scrape off the excess repair material using a putty knife. Allow repair material to cure for 24 hours (48 hours in cold weather) before sanding, then, feather sand the area.

## Environmental Impact

- Swanson Group uses process by-products to produce energy
- Swanson products are renewable, biodegradable and recyclable

## Air Quality and Safety

This product will generate wood dust from sawing, sanding, or shaping. Material Safety Data Sheets are available on the Swanson Group website at [www.swansongroup.biz](http://www.swansongroup.biz) and upon request.

Structural panels (PS-1) are exempt from CARB regulations. However, this product contains no added urea formaldehyde and its 0.01 ppm formaldehyde level is lower than 0.05 parts per million, the lowest Phase 2 (2014) CARB formaldehyde limit, based on certified tests conducted in 2007 at an IAS accredited laboratory.

**There's more than one reason Swanson Group® is #1 in the concrete forming industry. Find out more at [www.swansongroup.biz](http://www.swansongroup.biz)**



Swanson Group Sales  
1651 S F. Street  
Springfield, OR 97477

Email: [greg.bess@swansongroup.biz](mailto:greg.bess@swansongroup.biz)

Office: 541-492-7516

Cell: 541-415-2768

Fax: 541-832-1486

[www.swansongroup.biz](http://www.swansongroup.biz)



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