BBOES & BBOES TK Concrete Form

- Struct 1 strength and stiffness
- Two working, 60 grit sanded surfaces
- Uniform dimensional tolerances
- Reusable, economy panel
- Factory applied Nox-Crete FormCoat E and Swanson Form Sealer

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:
BBOES and BBOES TK (Tight Knot) are economy concrete forms made without overlays. The B faced Douglas fir plywood is sanded with 60 grit and delivers a rough concrete finish with heavy grain transfer and heavy defect show-through. BBOES and BBOES TK are factory treated with Nox-Crete Form Coating E release agent and Swanson Form Seal.

BBOES: Douglas fir faces, plugged, repaired and sanded.

BBOES TK: Douglas fir tight knot (unlimited) faces, poly repaired and sanded.

Face Description:
BBOES: B Grade Douglas fir face and back, plugged, repaired and sanded 60 grit. BBOES TK: B Grade Douglas fir face and back (1.75" solid tight knot), poly-repaired and sanded 60 grit.

Pour Range	Moisture Resistance 8-Hour Cobb	Check Resistance APA 6	Alkalinity Resistance (10 is Highest)
3 to 5	NA	NA	0

Number of reuses depends on concrete mix design, form release, jobsite care, handling, etc.

Panel Construction/Moisture Resistance:
BBOES and BBOES TK are produced with B Grade Douglas fir faces with no overlays. The plywood core is a minimum C grade with Douglas fir inner plys. They have a waterproof glue bond and are Struct 1, PS 1-22. Panels are sanded with 60 grit. All Swanson products are made in Oregon, USA.

Dimensional Tolerance:

Panel Tolerance	Thickness Tolerance	Length & Width Tolerance	Squareness	Straightness
3/8" to 3/4"	+/- 1/32" (.031")	+0, -1/16" (.062")	1/8" (.125)	1/8" (.125")
1" and greater	+/- 5%	+0, -1/16" (.062")	1/8" (.125)	1/8" (.125")

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

Product Grade:
Standard production is shipped on grade only. Non-standard production (e.g. special thickness, sizes, etc.) are shipped as product of the run with Good 1 Side and shop unitized and are priced separately.

Available Thicknesses and Sizes:
Standard thicknesses: 5/8" and 3/4"
Standard panel sizes: 2' x 8' and 4' x 8'

Please note: non-standard thicknesses, widths and lengths meeting volume requirements are available.

Nominal Thickness	Nominal Thickness Metric (mm)	Number of Plys	Avg. Weight* lbs./SF	Avg. Weight* lbs./Panel	Pieces Per Unit
5/8"	15.5	7	1.90	60.8	53
3/4"	18.5	7	1.99	63.8	44

Working Faces/Treatment:
- BBOES and BBOES TK are available with 2 working faces.
- Gloss level of Concrete Surface: Wood grain
- Wood Grain Transfer to Concrete Surface: Heavy
- Wood Defect Transfer to Concrete: Heavy
- Sugaring: Will occur

Working Edges/Treatment:
- Swanson Form Sealer is applied at the factory
- Use this edge seal or similar to seal exposed wood edges and holes

Edge Seal Color:
- Red

Release Coating:
- Factory applied Nox-Crete Form Coating E
- Jobsite coating is required before first and each subsequent use
- Swanson recommends Nox-Crete Form Coating 250 or equivalent
- Do not use fuel oils, recycled oils or solvents as release agents

APA Product Standard:
The APA grade stamp is your guarantee of a quality product.

Stress and Load Span Tables

Actual wet form conditions are simulated by these stress and load span tables. Use only wet span values as dry standards are overstated. APA design values are 25% less than Canadian (COFI) design values for Douglas fir.

Stress Tables: Table 1 and Table 2 are based on standard APA and commercial standards PS 1-22 criteria.

BBOES and BBOES TK Struct 1 Softwood, Struct 1 Stress Tables WET, WORKING STRESS DESIGN CAPACITIES.		
	Struct 1	Struct 1
Nominal Thickness	5/8"	3/4"
Number of Plys	7	7
Table 1: Face Grain *Perpendicular* to Supports[1]		
Bending Stiffness[1]	246,359	397,676
Bending Resistance[2]	838.4	1,118.5
Planar Shear[3]	324.4	383.8
Table 2: Face Grain *Parallel* to Supports[1]		
Bending Stiffness[1]	148,598	301,870
Bending Resistance[2]	746.4	1,2001.4
Planar Shear[3]	290.9	369.4

[1]Bending Stiffness = EI* (lb-in^2/ft); [2]Bending Resistance = M or F_bS (lb-in/ft); [3]Planar Shear Capacity: V or F_sIb/Q (lb/ft). There is no DOL (Duration of Load) or experience factor applied to EI. FbS and FsIb/Q.

Load Span Tables: Tables 3 and 4 are based on APA and PS-1-22 criteria.

BBOES and BBOES TK Struct 1 Struct 1 LOAD SPAN TABLES – WET CONDITIONS Recommended Maximum PSF on Struct 1 Panels				
Table 3: Face Grain *Perpendicular* to Supports[1]				
Support Spacing	Plywood Thickness - Allowable Pressure (PSF)			
	5/8"		3/4"	
(in.)	ℓ/360	ℓ/270	ℓ/360	ℓ/270
8"	1,620	1,620	1,920	1,920
12"	760	1,005	1,055	1,190
16"	345	455	500	665
19.2"	200	270	305	405
24"	105	140	160	215
Table 4: Face Grain *Parallel* to Supports[1]				
Support Spacing	Plywood Thickness - Allowable Pressure (PSF)			
	5/8" 7-ply		3/4" 7-ply	
(in.)	ℓ/360	ℓ/270	ℓ/360	ℓ/270
8"	1,455	1,455	1,845	1,845
12"	560	745	1,030	1,145
16"	235	310	445	595
19.2"	165	220	320	425
24"			165	220

Notes: [1]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.

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
- Panels 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. **Stripping:** Metal bars or pry bars should not be used on plywood because they will damage the panel surface and edge. Use wood wedges, tapping gradually when necessary. Plywood's strength, light weight and large panel size help reduce stripping time. Cross-laminated construction resists edge splitting. Use a burlap sack soaked in release agent wrapped around a broom to sweep clean the surface directly after stripping panel.
2. **Cleaning and Release Agent Application:** Soon after removal, plywood forms should be inspected for wear, cleaned, repaired, refinished and lightly treated with a formrelease agent before reusing.
3. **Handling and Storage:** Care should be exercised to prevent panel chipping, denting and corner damage during handling. Panels should never be dropped. The forms should be carefully stacked flat, face-to-face and back-to-back, for hauling. Forms should be cleaned immediately after stripping and can be solid-stacked or stacked in small packages, with faces together. This slows the drying rate and minimizes face checking.
4. **Coating and Agents:** Protective sealant coatings and release agents for plywood increase form life and aid in stripping. "Mill-oiled" Plyform panels require a coating of release agent between uses. Specifications should be checked before using any release agent on forms.Plywood form coatings, such as lacquers, resin or plastic base compounds and similar field coatings sometimes are used to form a hard, dry, water-resistant film on plywood forms. In most cases the need for application of release agents between pours is reduced by the field-applied coatings. *Source: APA.

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 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

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