

UltraBoard Plus™ Application Guide

Cutting

Circular Saws

UltraBoard Plus may be cut with standard table saws. For best results, use a blade designed for cutting UltraBoard Plus. The specifications are:

- Top grind inverted “V”
- Face grind hollow
- Tooth pitch 0.375” to 0.750”
- Side clearance 0.015” to 0.020”
- Clearance angle 2°
- Blade rpm 3500 to 4500
- Feed rate 40 to 60 fpm

UltraBoard Plus saw blades are available for purchase from:

Arkansas Carbide Saw and Tool

(918) 626-3837

You will need to specify the arbor and blade diameter when ordering.

Routers

Looking for cutter profiles?

[Click here to visit our cutter profiles page.](#)

Routing UltraBoard Plus works well for creating irregular shapes. We recommend bits available from Onsrud Cutter, Inc. (847) 362-1560 and Vanguard Tool Corp. (276) 673-3496. Use Onsrud Cutter series 52-200 or Vanguard Tool part number VSC-102. Router bits should be double fluted carbide, upward chip removal, with a 1/4” shank diameter and a 3/16” cutting diameter. For best results run at 18,000 rpm and 85 inches/minute. Feed rate may be varied to compensate for larger bit diameter and different rpm. For special and long router bits for CNC routers, we recommend contacting Hartlauer Bits (541) 343-0390.

Laminating & Gluing

No special surface preparation is required when gluing to the face of UltraBoard Plus. The surface should be kept clean and free of any oil contaminants as with any other surface to be glued. The selection of the proper adhesive depends on the materials to be joined. As a general guideline pipe cement, contact adhesive, construction adhesives and pressure sensitive tapes are compatible with the UltraBoard Plus facers. Caution should be taken when using solvent-based adhesives not to allow adhesive to make contact with the polystyrene core. These types of adhesives are likely to attack and deteriorate the foam core. Any adhesive should be thoroughly tested to evaluate its suitability.

Painting

UltraBoard Plus needs no special preparation before priming or painting. For best results the surface should be clean and free of any oil contaminants. Cleaning the panel with glass cleaner or isopropyl alcohol just prior to coating can accomplish this.

Type of Paint

The following paints have shown excellent results when applied to UltraBoard Plus:

- Matthews Paint Co. (800) 323-6593
- MAP
- De'Signar
- Schwartz Chemical Co. (718) 784-7592
- REZ-N-LAC
- Wyandotte Paint Products Co. (800) 241-2173
- Grip-Gard
- Grip-Flex
- Meta-Flex
- Spraylat Corp. (914) 699-3030
- Lacryl 20 series
- Sherwin Williams (800) 336-1110
- Polane
- PPG Finishes (614) 363-9610
- Delstar Delthane polyurethane acrylic enamel
- Earl Campbell Mfg. Co. (816) 842-4777
- Acrylic lacquer

Exercise caution when using oil or solvent based paints as to not allow paint to make contact with the polystyrene core. Oil or solvent based paints can attack and deteriorate the foam board core.

Foam core edges that may be exposed to exterior conditions, including high intensity UV exposure to sunlight, should be protected from deterioration with a coating of water-base paint or similar UV barrier product.

Remember to exercise caution with any paint. Always test paint on a small sample prior to production runs, and adhere to all paint manufacturer's usage recommendations.

Screen Printing

UltraBoard Plus panels are rigid, lightweight and easy to handle. The surface of UltraBoard Plus has a closed cell matte finish that is ideal for screen printing applications.

Screen Printing Ink Types

The following inks have shown excellent results when used on UltraBoard Plus:

Deco Chem, Inc.

(219) 259-3787

- ATX
- MFX
- EPO
- URE
- PRP

Serical, Inc.

(913) 342-4060

- PFMR
- MR Matte
- Fascure
- Gloss Poly
- XG
- PM
- PY

Naz-Dar/KC Inc.

(913) 422-1888

- 9700
- 7700
- S2
- GV
- PP
- 3700
- 2700

Ink Dezyne

(616) 887-8879

- VP
- MP

- UI

Caution should be taken with any ink. Always test ink on UltraBoard Plus prior to production run. Allow 24 – 96 hours after test printing to evaluate the suitability of the ink for the intended application. Follow all of the ink manufacturers instructions especially regarding any required ink additives such as catalyst for proper adhesion and exterior usage.

Surface Preparation

Ideal results are achieved when panels are cleaned prior to use in order to remove surface contaminants that may clog screens. A clean surface is achieved by wiping the panel with a tacky cloth, or by cleaning the panel with isopropyl alcohol or glass cleaner prior to screening.

Drying

Drying by oxidation and evaporation is recommended. Follow ink manufacturer's recommendations concerning ink drying times.

Digital Printing

UltraBoard Plus foam core panels primarily work well with digital printing systems. Most U.V. inks that are compatible with Expanded PVC can be used with UltraBoard Plus. As new hardware and ink technologies are ever-evolving, new challenges may arise concerning interactions with existing substrate technologies such as UltraBoard. As always, follow manufacturer's usage guidelines, and take the steps to properly test hardware, ink and substrate systems to insure good results.

Ultra Violet (UV) Inks

UV inks may be used with UltraBoard Plus. However, board thickness, type of ink, wattage of UV lamp and exposure time may affect results. Always test the suitability of the ink and the drying process for your particular UltraBoard Plus thickness. Allow 24-96 hours after test printing to evaluate results. Ink manufacturer recommendations should always be followed.

Surface Preparation

It is recommended before printing on UltraBoard Plus that all panels are cleaned of any surface contaminants. Particulate free gloves such as UltraBoard Pure Clean Gloves must be worn when handling UltraBoard Plus.

Printing

Before printing a production run of UltraBoard Plus, it is recommended that the end user call the manufacture of the digital equipment for set up and ink recommendations for the substrate. UltraBoard Plus may not be an appropriate product for every digital application. United Industries offers a free digital sample kit for testing before setting up for a production run.

Photo Mounting

UltraBoard Plus panels are widely used for pressure sensitive photo mounting boards. The facers of

UltraBoard Plus foam core boards provide a superior panel for photographic mounting boards. The additional rigidity of UltraBoard Plus panels produces finished mounts that are much stronger than mounts using lighter foam core substrates.

Surface Preparation

The surface should be clean and free of any dust, oil or other contaminants prior to mounting. This can be accomplished by wiping the panel with glass cleaner, a tacky cloth or with isopropyl alcohol.

Pressure Sensitive Mounting

Cold mounting in cold roller laminators or hand lamination provides excellent results. The choice of film is the most important consideration when using pressure sensitive film for photograph board mounting to UltraBoard Plus. Prior to application, review manufacturer recommendations concerning the use of their laminating materials in conjunction with UltraBoard Plus foam core boards. Best results are achieved when using equipment specifically designed for film and laminate application.

Dry Mounting

Dry mounting is not recommended with UltraBoard Plus foam core boards. Foam core panels may display a tendency to warp when heat is applied to only one side of the panel.

Preventing Bowing

Bowing occurs when different conditions exist on opposite sides of the foam core board including temperature and coating applications. Potential for bowing is also much higher in thinner boards at larger sizes such as 4' x 8' sheets. Upon unpacking, panels that display bowing may be corrected by simply inverting the panel on a flat surface for up to 24 hours, allowing bowing to dissipate.

To insure maximum flatness in installation environments, it is ideal to utilize a thicker panel. If using a thinner panel, wood frames or extruded aluminum channels may be affixed to the sheet perimeters to maintain even tensioning.

If panels have a coating applied to more than 50% of one side's surface area, ideally the coating is equally applied to the opposite panel side to achieve equal surface tensioning, thus avoiding potential bowing.

Outdoor Use

UltraBoard Plus is not recommended for outdoor use.

Flammability

UltraBoard Plus is flammable and may constitute a fire hazard. Do not expose to an open flame or other ignition source.