PROCESSING, HANDLING AND CLEANING GUIDELINES

For Moxie Surfaces Design Composite Panels

Decades of experience in lamination and core production has created the foundation for our state of the art translucent panels. Design Composite is made from the highest quality raw materials. We offer different facing sheets and core options. Professional planning of day lighting and the utilization of modern lighting technology further enhance the design process of our translucent panels.

Aside from our standard products, we offer various facing sheets, dimensions, core geometries, colors and physical and mechanical properties. In addition, we offer many processing and fabrication processes like edging, cell filling, panel bending and other processes to fulfill your project needs.

Processing Design Composite panels

In principle, the selection of cutting tools depends on the type of top sheet material (acrylic, satin, poly-carbonate).

- **Drilling**

Any conventional metal drill bit (HSS spiral bit) can be used. Panels without metallic top sheets should be drilled with high drill speed (50 – 10 m/min, but little feed speed). We recommend an advance drill if the hole diameter is more than 5 mm. Due to the thermal expansion of any thermoplastic top sheet a hole diameter of 2 mm larger than the screw diameter is required. Lubrication is useful during drilling in order to achieve an optimum drill surface.

- **Sawing**

Panels can generally be cut with standard wood working equipment (e.g. table saw, panel saw, hand circular saw, compass and band saw and CNC machining equipment). Carbide tipped saw blades with a large number of crown teeth together with high cutting speed and little feed speed produce optimum results. When drilling, a support could prevent detachment of the lower facing sheet.

- **Cutting**

Thermoplastic sheets (e.g. clear-PEP®, clear-PEP® color, AIR-board®,AIR-board® satin) require special saw blades in order to avoid bursting, cracking and chipping of the edges. We recommend: Leitz HW circular saw blade WK 871-3 300x3,5/2,5 Z60/ 15.71. For further information look up www.leitz.org. Cutting with laser and / or water-jet is not recommended.

- **Milling**

Panels can be milled with cemented carbide (CC) milling tools. High cutting speed (15.000 – 25.000 R/min) combined with little feed speed produces optimum results.

- **Grinding**

Grinding is used to adjust minor top surface defects or rough cutting edges. High grinding speed with little feed speed is recommended. The requested roughness can be adjusted with the grit size of the sandpaper. Tape speed of 10 m/s is suggested.

- **Polishing and Burnishing**

Manual polishing can either be done with a soft cloth or with a suitable felt polisher together with a polishing paste. Larger surfaces should be polished with a face-polishing machine that is equipped with a cloth, felt or lambskin soaked with polishing paste.

Processing, Handling & Cleaning

Design-composite surfaces can be polished to restore original gloss of surfaces damaged by scratches or abrasions. Use a rotor-orbital polishing machine with speed control and rigid sanding disk with sand paper 150, 240-360 grit (dry) and 1000 grit (wet). You can also use an electronic polishing machine with speed control and polishing pads. Treat surfaces with 3M type felt pads and universal abrasive paste. For matte surfaces it is possible to polish / opacify the surfaces using 1000 + grit wet sandpaper or very light polishing pastes.

- **Handling and Storage**

A thin film protects all design composite surfaces. It is advisable to keep the protective film in place for as long as possible or until panel installation. Storage must be in a sheltered location with temperatures between 40°F and 90°F. You must avoid direct sunlight, exposure to rain and snow and other harsh elements.

Handling panels must be done in a vertical position to avoid the panels rubbing against one another. Storage in a flat horizontal position is advised. Avoid contact of panels with dirt, solvents and other potentially harsh cleaning agents or chemicals.

- **Edge cleaning**

Use compressed air or similar to remove debris from edge and surface of panel, especially prior to final assembly. Wipe with an anti-static cloth to avoid scratches or abrasions.

- **Surface Cleaning**

To remove finger prints and other minor surface contaminants, use a solution of lukewarm water with neutral detergent or isopropyl alcohol diluted with water to 50% to 40% strength, gently rub with a soft sponge and rinse with cold water. Dry with a soft cloth or a wet buff. For large surfaces it is possible to use a pressure washer with cold or lukewarm water and neutral detergent. Do not use detergents other than those indicated above; use a dry cloth for dirt removal; do not clean panels under direct sunlight or high temperatures; do not use abrasives, squeegees, cutting blades, pointed tools etc. on surfaces.

- **Edging**

Solutions for edging include processing by hand by cutting and applying the edging, chamfering and manually polishing the edges. Machine processing using edging banding machines and using “T” profiles allow use of different edging materials and the use of aluminum or other material profiles.

- **Gluing and Assembly**

Design Composite can be glued to other materials and itself. For structural applications with please contact our Technical Specialist.

- **Sealing of Edges**

If panels are exposed to weather conditions or if they are placed in very humid environments edges must be sealed with acid-free silicon or dry glazing methods using weather seals, edge profiling or other similar edge treatment.

Recommended materials for exteriors: all our products hold up well to the exterior environment and suggest you refer to our technical data sheets that demonstrate the different technical properties of our material. We recommend our UV PC, Satin and Stage products for the best performance in exterior environments; these products are extremely durable against impacts, harsh weather and UV degradation. Consult our technical specialist for the best product suited for your application. For bending and thermoforming, please contact our technical specialist.