



Panel Fabrication & Installation Instruction Guide

Product Description

Custom High Pressure Laminate (CHPL) consisting of digital graphic surface papers encapsulated with melamine resins are pressed over kraft paper core sheets impregnated with phenolic resin. These sheets are bonded under pressures greater than 1200 pounds per square inch and at temperatures approaching 300°F (149°C). Finished sheets are trimmed to sheet size or cut to shape by computer assisted equipment.

Maximum sheet and panel size is 60" x 144". Single images larger than 5' x 12' can be created by tiling multiple panels with index cut seams. Panel thickness ranges from 0.028" post-forming laminate to 1" solid structural panels. Panels can be cut into virtually any shape such as human and animal shapes, arched tops, ovals circles or freeform shapes. If you can draw it, we can cut it. Design possibilities include cut-outs within the panel, shaped edges and even 3-D layering. Panels can also be made "double-sided", with graphic images on both sides, but one monolithic piece. Grades of 1/2" and up are self-supporting and can be fitted with threaded inserts ... perfect for easily attaching to walls, railings and posts without visible hardware. iZone offers a complete line of pedestals and mounting hardware.

iZone CHPL is entirely made in the U.S.A. (under one roof) in our very own centrally located manufacturing facility.

Panel Thickness Options

iZone Imaging's **CHPL** product is suitable for interior and exterior use in museums, exhibits, zoos, parks and wildlife parks, municipal wayfinding, hiking trails markers, parking garage signage, swimming pool areas, wall murals, branded environments, and many more applications.

- **0.040"**

Is most frequently used for work surfaces and counters, islands, vanities, desks, and tables. Typical vertical uses include surfacing for wall panels, murals, teller cages, and front panels of workstations, such as those in hospitals, airports, and restaurants. Type 0.040 Is produced for both horizontal and vertical interior applications where the surface must be functional, durable, and decorative. The back-side is sanded to facilitate bonding and must be adhered to a suitable substrate. Not recommended for exterior use.

- **0.060"**

Is most frequently used for reader rails, interpretive graphics, and some murals. These laminates need to be mechanically fixed with screws, frames, etc. These laminates can be used outdoors if properly mounted.

- **0.090"**

Is most frequently used for double sided flip-books, wayfinding, interpretive graphics, and directional's. The 0.090 is a National Park Standard for the NPS frames. These laminates need to be mechanically fixed with screws, frames, etc. These laminates can be used outdoors if properly mounted. This product can also be made double sided with images on both sides, however the double-sided graphics need to be mechanically fastened to prevent any warping.



- **1/8" (0.125")**
Is most frequently used for double sided flip-books, wayfinding, interpretive graphics, murals, and directional's. These panels need to be mechanically fixed with screws, frames, etc. These panels can be used outdoors if properly mounted.
- **1/4" (0.0250")**
Is most frequently used for double sided flip-books, wayfinding, interpretive graphics, murals, and directional's. These panels need to be mechanically fixed to a substrate or along the edges with screws, frames, etc. These panels can be used outdoors if properly mounted.
- **1/2" (0.500")**
Has a smooth black back and is self-supporting. Most used in areas where free-standing elements and shaped panels are required. Can be produced double-sided. May be drilled and tapped to accept a 1/4"-20 bolt for mounting, or drilled through for mounting from the front. Mostly used in exterior applications where durability is needed.
- **3/4" (0.750")**
Has a smooth black back and is self-supporting. Most used in areas where free-standing elements and shaped panels are required. Can be produced double-sided. May be drilled and tapped to accept a 1/4"-20 bolt for mounting, or drilled through for mounting from the front. Mostly used in exterior applications where durability is needed.

Installation and Fabrication Guide

(Sanded Back 0.040" Laminate)

When working with Laminate grades, the following techniques will produce a quality application.

1. Proper conditioning of CHPL panels minimize the negative effects of warping, shrinking, and expansion of assembled panels. Panels must be stored horizontally and ideally all components should be conditioned at 70°F to 75°F and 45% relative humidity for 48 hours prior to assembly. When using CHPL panels thicker than 0.040", leave 1/8" space around the panel to allow for expansion and contraction. Due to the organic composition of CHPL, environmental factors that cause expansion, contraction, and warping are natural, as such these tendencies can not be warranted. Choosing the appropriate thickness of CHPL and proper installation will minimize these natural forces.
2. Bonding iZone laminate panels to substrate materials should be done according to the proven principles of laminating. Typically the material is glued to the desired substrate, and then trimmed to final dimensions. When requested, iZone will ship materials untrimmed.
3. Always bond laminate to suitable substrate such as medium to high-density fiberboard, particleboard or metals. It should not be glued directly to plaster walls, gypsum wallboard, plywood or concrete.
4. Recommended adhesives include solvent or water-based contact cement, white glue (PVA),



epoxy, and hot melt glue. Consult your adhesive supplier for your specific application requirements.

5. All saw blades and router bits used for cutting should be carbide or diamond tipped. Feed rate should be slow and tool speed should be high. Before cutting, protect the panel surface from scratches by using a peel coat or painters tape. It is recommended that laminate edges be protected by lubricating them with a wax stick prior to tooling.
6. All edges of laminate should be filed smooth with the file direction towards substrate to help prevent stress cracks and minimize chipping.
7. Inside corners of cutouts should have a minimum radius of 1/8" and be filed smooth. This reduces the likelihood of stress cracks.
8. When nails or screws are used, it is advisable to first drill an oversized hole through the laminate. This reduces the likelihood of stress cracks.
9. When used outdoors or in humid conditions, edges must be sealed with a waterproof material. iZone panels are extremely resistant to water on the top surface, extreme water conditions, although not covered under our warranty, can be minimized by applying a water resistant coating to the back sides of the panel.
10. Do not use interior grades in humid conditions or in direct sunlight.

Installation and Fabrication Guide

(Compact Laminate - 1/8", 1/4", 1/2", 3/4")

When working with Laminate grades, the following techniques will produce a quality application.

1. When fabricating with CHPL panels or mounting panels beside each other, proper conditioning of all components minimizes the negative effects of warping, shrinking, and expansion of assembled panels. Panels must be stored horizontally and ideally all components should be conditioned at 70°F to 75°F and 45% to 50% relative humidity for 48 hours prior to assembly. Leave 1/8" space around CHPL panels thicker than 0.040" to allow for expansion and contraction. Due to the organic composition of CHPL, environmental factors that cause expansion and contraction and warping are natural, as such these tendencies can not be warranted. Choosing the appropriate thickness of CHPL and proper installation will minimize these natural forces.
2. Panels can be sawed, routed, drilled, and tapped with conventional wood-working equipment. Saw blades and router bits should be carbide or diamond tipped and kept sharp to produce chip free edges. Feed rate should be slow and tool speed should be high. Before cutting, protect the panel surface from scratches by using a peel coat or painters tape. Edges can be finished by sanding with course sandpaper (80 grit) followed by a fine sandpaper (180 - 220



grit). This will remove saw striations and provide a smooth appearance to the edges. A final edge treatment using Thompson's® Waterproofing Wood Protector will further enhance and protect the edge aesthetics. Inside corners of cutouts should have a minimum radius of 1/8" and be filed smooth, this reduces the likelihood of stress cracks. Self-tapping screws can be used in predrilled holes. Do not screw into or use splines in the edges of panels. Panels can be joined using metal brackets or clips, although it is sometimes necessary to use shims to level out the joint. Mitered edges should be avoided.

3. 1/8" and 1/4" thick panels must be enclosed in a frame with back support or mechanically fastened directly to a surface.
4. Panels over 1/2" thick must be mechanically fastened and not glued, or epoxied to a surface. We recommend using a spacer between the panel and the surface you are mounting to. Doing so helps protect the panel from standing water damage and reduces ice build up underneath that could cause the panel to be forced away from the mounting surface. While panels are extremely resistant to water on the top surface, extreme water conditions, not covered under our warranty, can be minimized by applying a water resistant coating to the back and sides of the panel. When attaching CHPL panels to a mounting plate using "threaded inserts", use the largest mounting plate possible to minimize warping of the panel. When using "threaded studs", do not use silicone in the holes. You must use a permanent epoxy or the panel will warp and pull the studs out of the hole.
5. Do not use interior grades in direct sunlight.

Manufacturing Tolerances

We take great pride in our work and as such, you will find that our manufacturing tolerances are second to none.

- **Printing Tolerance:** Less than (+/-) 0.0208 per linear ft. (less than 0.25" on a 12' long panel).
- **Panel Thickness Tolerance:** Less than (+/-) 5% per panel (0.025 on a 1/2" panel).
- **Panel Size (HxW) Tolerance:** Less than (+/-) 0.02 per panel.
- **Fabrication Tolerances:** If you are using iZone Panels assembly components and have critical cuts or tolerances, make us aware when placing your order so that we can achieve your desired results.
- **Visual Tolerances:** Graphic panels and hardware will be free of any visual imperfections that would interfere with the normal viewing and enjoyment of either.



Disclaimer

This information is presented to assist you in determining what grades of material may meet the requirements of your project. Purchaser shall determine the suitability of the product for its' intended use, and purchaser assumes all risks and liability whatsoever in connection therewith. All statements, technical advice, and recommendations contained herein are based on tests and information believed to be reliable, but the accuracy there of is not guaranteed, and is made in lieu of all warranties, expressed or implied: seller's and manufacturer's only obligation shall be to replace the quantity of product proven defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product.